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2. Brooks, G., Gorman, T.P. and Kendal, L. (eds.) (1993). Spelling It Out: The Spelling Abilities of 11- and 15-year-olds. Slough, UK, National Foundation for Educational Research.

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2. Hirshon, A. (1998). Academic Library Consortia: Past, Present and Future. Retrieved online on 10 August 2006 at <http://leigh.edu/arh5/arh5.html>

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EXPLORING WISDOM

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Congratulations - Award of Ph.D. - Dr. Ravindra K. Gupta
SLA Asian Librarian Award 2015 & tour report - Dr. Sandeep K. Pathak
Superannuation of Dr. Arjun Singh, Indian Inst. Of Forest Management, Bhopal

Selected Buddhist Monastery Libraries of UP: At a glance

Sangita Dharade* and Neha Verma**

Abstract:

This paper describes comparative analysis and survey of the Organisation, Administration and services, condition, technical works, user facilities, and collection development of Buddhist Monastic Institute LICs in Uttar Pradesh.

Introduction:

Buddhism a Major Cultural Link between the People of Asia from India to the Pacific, and its Libraries has a long history of textual preservation. Around the first century B.C., Buddhism began to develop sacred Indo-European languages, Pali and Sanskrit. The Buddhist scriptures, are known as the Tripitakas or Tipika (literally meaning three baskets), consisting of the disciplines for Monastic life, the major teachings and scholarly commentaries on the teachings. The Tripitakas comprise the complete canon of Buddhist texts written between 500 BC. Buddhist monasteries are generally called Vihara (Pali language). Viharas may be occupied by males or females, and in keeping with common English usage, a Vihara populated by females may often be called a nunnery or a convent. The **Monastic library** which deals with the Buddhist Monastic centre is called Monastic Library. Monks scribbled away for hours a day, interrupted only by meals and prayers. With such production, medieval Monasteries began to accumulate large libraries.

The Buddhist Library Organizes various Buddhist and meditation related activities, including weekly meditation classes, weekend

workshops, and ongoing courses, presentations by international speakers and joint events with Buddhist groups.

Purpose and Objective of the Study:

The study aims at evaluating the functioning and services and present condition of the Buddhist Monastic LICs of Uttar Pradesh.

The present study has the following specific objectives-

1. To study the position of Buddhist monastic LICs in the organizational structure of the present organization.
2. To indicate special features of monastic libraries which are very specific keeping in view the requirement of members and users of Monasteries.
3. To state out the organizational pattern of Buddhist monastic and LICs under the survey.
4. To study the library activities including building, finance and budget, staff, membership, collection and technical processes.
5. To study the services and modern facilities including references services, documentation services, and computerized services (automation,

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bibliographic, database, internet accesses.etc.

6. To access the effectiveness and impact of facilities and services being provided by the Buddhist monastic LICs to the users of Uttar Pradesh.

7. To ascertain the variety of sources and study material available in Monastic libraries to cater to various study requirement.

8. Finally to know the extent of IT application in providing effective library Services.

Institutions/Organization Covered in the Study:

In the present study following 06 Buddhist Institution/Organization of Uttar Pradesh is covered.

1. Central University of Tibetan Studies (Deemed University), Sarnath, Varanasi U.P.

The Shantarakshita library is the central library system of Central University of Tibetan Studies, Sarnath Varanasi. It is unique information resources centre for scholars of Tibetan and Buddhist studies which came into existence with the inception of the University in the year 1967.

2. Padmasambhava Buddhist Center (PBC), Varanasi, U. P.

Center's excellent library of Buddhist books and videos, Institute's Library is an extensive collection of books, teaching transcripts, philosophical texts, videos, Sadhanas, audio tapes/CD and magazines. The library contains approximately 2200 books and transcripts covering a wide

range of subjects, Buddhism & other disciplines science.

3. Rahul Sankrityayan Sansthan, Dist, Kushinagar, U.P.

Rahul Sankrityayan Sansthan : Sampuran Pali Tripitikas in the Buddha wachana, Sanskrit bibliography of Mahayana community, variety of books written by different authors, related to Gautama Buddha. Rahul Sankrityayan Sansthan Library has collection approximately 7000 books in the library and 3000 collection in Sankrityayan Sanstha.

4. Department of Pali and Buddhist studies, Banaras Hindu, University, B.H.U

The Department of Pali and Buddhist Studies, Banaras Hindu University is one of the pioneering departments in the field of Buddhism in India. The library has special collection of Books related to pali and buddhist studies.

5. Institute of Buddhist Studies, Bundelkhand University, Jhansi

The Institute has a well stocked and up-to-date library in the separate building. It has a rich collection of rare books, Manuscripts, reference books (dictionary, encyclopedia etc.) in different disciplines. The library holds approximately 4500 books, of Present Library collection of the Buddhist Philosophy, Buddhist Culture and Pali. The Library Serves Students those who are engaged in Buddhist studies.

6. Sakyasingha Rathapala Buddhist Monasteries, Ghaziabad, Utter Pradesh

The International Buddha education institute (IBEI) was established in 1952 at Hapur. The Institute has a good collection of books. The institute has been engaged in the welfare works especially for the benefit of destitute women and

children and has setup several child welfare Centre and foster homes.

Analysis of Data :

The study covers various facets of the Organization, administration and Services, working etc. of the Buddhist Libraries.

Table No. 1: Total collection of Monastic Libraries

S. No	Name of Buddhist Monastic institute	Total Collection	Manuscript	Xylograph
1	Shantarak Shits Library, Central University of Tibetan Studies Sarnath, Varanasi. U. P.	108000	4000	2000
2	Padmasambhava Buddhist center (PBC), Varanasi.	2200	200	00
3	Sakyasingha Rathapala Buddhist Monastery, Ghaziabad, Uttar Pradesh	14000	----	00
4	Rahul Sankrityayan Sansthan, Kushinagar, U.P.	7000	00	00
5	Department of Pali and Buddhist studies, Banaras Hindu, University, (B.H.U)	2500	00	00
6	Institute of Buddhist Studies, Bundelkhand University	5000	00	00

Table No. 2: Types of Documents in the different Buddhist libraries.

S. No.	Name of Buddhist Monastic institute	Reading materials in volumes (Approx.)								
		General subject books	Reference Books	Periodicals/Journals	Govt. Documents	Reports / Monograph	Manuscripts	Photos/Slides	Micro forms	CD-ROM
1.	Shantarak Shits Library, Central University of Tibetan Studies Sarnath, Varanasi. U. P.	✓	✓	✓	--	✓	✓	-	✓	-
2.	Padmasambhava Buddhist center (PBC), Varanasi, U. P	✓	✓	✓	-	-	-	-	-	--
3.	Sakyasingha Rathapala Buddhist Monastery, Ghaziabad, Uttar Pradesh	✓	✓	✓	-	-	-	✓	-	-
4.	Rahul Sankrityayan Sansthan, Kushinagar, U.P.	✓	✓	✓		✓	-	-	-	-
5.	Department of Pali and Buddhist studies, Banaras Hindu, University, (B.H.U)	✓	✓	✓	-	-	-	-	-	-
6.	Institute of Buddhist Studies, Bundelkhand University	✓	✓	✓	-	-	-	-	-	-

Table No.3: Traditional Services provided by the Buddhist Monastic Institute libraries

S.No	Libraries	Type of Services			
		Circulation Service	Reference Service	Reading Room Service	Documentation Service
1.	Shantarak Shits Library, Central University of Tibetan Studies Sarnath, Varanasi.	✓	✓	✓	--
2	Padmasambhava Buddhist center (PBC), Varanasi	✓	✓	✓	--
3	Sakyasingha Rathapala Buddhist Monastery, Ghaziabad	✓	✓	✓	--
4	Rahul Sankrityayan Sansthan, Kushinagar,	✓		✓	--
5	Department of Pali and Buddhist studies, Banaras Hindu, University	✓		✓	---
6	Institute of Buddhist Studies, Bundelkhand University	✓		✓	---

Table No.4: Modern facilities being provided by the Buddhist Monastic Institute libraries

S.No	Name of Monastic Libraries	Type of Reading Materials				O.P.A.C. service
		Computerized Storage and Retrieval	On line retrieval	CD-ROM service	Facsimile/ Photocopy	
1.	Shantarak Shits Library, Central University of Tibetan Studies Sarnath, Varanasi.	✓	✓	✓	✓	✓
2	Padmasambhava Buddhist center (PBC), Varanasi, U. P.	--	--	--	✓	--
3	Sakyasingha Rathapala Buddhist Monastery, Ghaziabad, Uttar Pradesh	✓	✓	----	✓	✓
4	Rahul Sankrityayan Sansthan, Kushinagar, U.P	--	--	--	--	--
5	Department of Pali and Buddhist studies, Banaras Hindu, University, (B.H.U)	✓	✓	----	✓	✓
6	Institute of Buddhist Studies, Bundelkhand University	✓	---	--	✓	✓

Conclusion:

The survey result showed that the Same Monastic Libraries had weak correlation with the foundation of the Buddhist Organisation and the subject area of collections. Collection policies which defines the subject areas and scope in which the Library should acquire Materials, Book and Multi-media, must be developed in joint consultation between Library Staff and the Buddhist Monastic administration. By default, such a policy will have bearing on the type of readership of the Library. The policy should also clarify the scope of collections and acquisitions as per library facility/ collection and also seek to coordinate these holdings.

The libraries should procure need based documents irrespective of their physical form and undue emphasis on books and back volumes. It should be avoided. Sources of information in other physical form are more important in a special Libraries i.e. Buddhist Monastic LICs.

To save the scarce Library space and to improve Buddhist Monastic Library services, the creation of data bases as also the procurement of CD-ROM databases is suggested.

Divisions of funds allocated to the library must be established between Library staff and the administration so as to create a balance in collections & acquisitions in the Organisation as a whole. A collection policy should further identify the official and the department should held responsible

for acquisitions, preferably the librarian, and accordingly provide a statement on budget allocations.

d) A regular and recurring Library budget for ICT/computer application and the other all activities of Information centers needs to be provided. This should go beyond one time grant allowed for the introduction of computerization in the libraries.

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Use of Mobile Information Services in the Academic Library Environment: A study on the private college libraries in North Bengal

Santanu Das*

Abstract

The advancement of information and communication technologies (ICT) has provided faster access to information and it is also challenging the libraries to rethink and remodel their services adopting the technological changes. In this period of information revolution, libraries are trying to experiment with mobile devices and services to support the information needs of their users wherever they may be. Through an examination of trends and technological developments in the area of mobile devices and a review of the potential of mobile devices, the paper tries to showcase the potential role mobile devices in the academic libraries. A short telephonic survey was also carried out with the private college librarians, asking respondents about their current use of mobile technologies in their respective libraries. Survey responses were all negative regarding the use of mobile technologies in the libraries for providing information services. Although most of the librarians showed a clear intention to implement the mobile technologies in their libraries as soon as possible. Lastly some recommendations have been given to adopt mobile technology as a prominent and user centric service.

Key words: Library services, mobile devices, mobile technologies, information services, academic libraries, North Bengal

1. Introduction:

Today, with the development and innovation of technologies every field is at the new curve of development. The technologies have made communication and access to information very convenient and timely to the users from the comfort of their own home and office, and from where ever they are while on the move with their mobile phone units or PDAs (Karim, Darus & Hussain, 2006). So is the case of libraries and information centre. Libraries are now adopting new and emerging technology in every area to provide the best possible services to the users. Digitization in libraries has led to the changing scenario of library services. Wireless networks are emerging fast as latest technology; to allow users to access information and services via electronic media, without taking geographic position in account.

Mobile technology is a recently developed concept in libraries, which will give a new shape and dimension to library services.

2. Mobile Technology System and its Evolution:

Mobile technology is a technology that is portable. It is used as a communication technology using media transmission such as radio waves, microwave and Bluetooth and so we can transfer any type of data with mobile technology such as voice, video, text etc. The passion for mobiles by common man has thrown ample opportunities for libraries to create mobile-friendly library and information services, which may lessen the risk of exclusion. Here the evolutions of mobile technology have been depicted through Table 1.

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Table 1. Evolution of Mobile Technology System

Generation	Technology Used	Function	Example
ZERO GENERATION (0G-0.5G)	PTT (Push to Talk), MTS (Mobile Telephone System), IMTS (Improved Mobile Telephone Service), AMTS (Advanced Mobile Telephone System)	Available as a commercial service that was part of the public switched telephone network.	Radio telephone, Autoradiopuhelin (ARP)
FIRST GENERATION (1G)	Digital signals, analog radio signal, Frequency Division Multiple Access (FDMA), Advanced Mobile Phone System	Supports longer distances call.	Cell Phone
SECOND GENERATION (2G)	Include digital multiple access technology such as Time Division Multiple Access (TDMA) and Code Division Multiple Access (CDMA), Compression Decompression Algorithms (CODEC)	It supports voice limited data communication, fax, SMS Used for services such as Wireless Application Protocol (WAP), Multimedia Messaging Service (MMS), World Wide Web (WWW)	GSM (Global System for Mobile), PHS (Personal Handy-phone System), PACS (Personal Access Communications System), CT2 (Cordless Telephone Second Generation)
2.5G	GPRS (General Packet Radio Service)	Multimedia Messaging Service (MMS), World Wide Web (WWW)	
2.75G	Enhanced data rate for GSM evolution	It supports flexibility to carry packet switched data and circuit switched data as well as continuous connection to GPRS network.	
THIRD GENERATION (3G)	High Speed Packet Access (HSPA), Global Positioning System (GPS)	Enhanced audio and video streaming, higher data speed, video conferencing, mobile television	Air interfaces like Wideband CDMA (WCDMA) and CDMA 2000, GSM EDGE, UMTS (Universal Mobile Communication System)
3.5G	High Speed Downlink Packet Access (HSDPA)	Higher data transfer speed	Adaptive and Modulation and Coding (AMC), Multiple Input Multiple Output (MIMO), Hybrid Automatic Request (HARQ)
3.75 G	High Speed Uplink packet Access (HSUPA)	Advanced person to person data application with higher and symmetric data rates.	
FOURTH GENERATION (4G)	IP packet switched network, mobile-ultra broadband	High quality audio/video streaming over end to end internet protocol	WiMAX, Long Term Evolution (LTE), Mobile multimedia, Anywhere Global Mobility Solution over Integrated Wireless and Customized Services (MAGIC)

3. Advantage of Using Mobile Technologies in Libraries:

3.1 User-friendly Aid

Familiarity with their own devices and technology helps the users in accessing information quickly and does not require orientation and training. Mobile users are using the facilities on mobile phones like SMS, instant messaging, web browsing, e-mail effortlessly to communicate. Most of the features are pre-installed on mobile devices or option for data plan packages.

3.2 Personalised Service

Personalised service helps users to interact with library staff to seek specific information or reference away from library.

3.3 Ability to Access Information

Information access from anywhere at anytime will be of great help for users who cannot visit library in person and provides a constant link to required information resources.

3.4 Time Saving

Users need not record information about resources while browsing and searching library resources or wait at library transaction counter to renew/reserve books and hence the time of the user is saved.

3.5 User Participation

Libraries can enrich OPAC by allowing users to incorporate user created content like notes or images uploaded by users.

3.6 Location Awareness

Mobile communication enables libraries to offer location-based services/content through global positioning system (GPS) capabilities. Libraries can guide the users to the

location of specific document or service through maps and navigational tools.

3.7 Limitless Access

All online resources accessible on their desktop also become accessible through mobiles.

3.8 Access to Print-disabled Users

Mobiles communications help providing services orally to vision-disabled and physically-handicapped users.

4. Need of Mobile Information services in Academic Libraries:

Academic institution, a place of birth of new information as the students are the future of new beginnings they should be given full chance of development their ideas, which can be fulfilled in academic areas. Library is the storehouse of knowledge which should provide their students ample of opportunity to grab knowledge. Due to the development of technology, their impact of higher education has become incremental and revolutionary.

As higher education institutions students increasingly use mobile devices, they view the devices as integral to their daily lives. Students and researchers rely on quick reference source by discipline and then linking to reference source compatible for cell phone use.

As a result, they express need to integrate personal technologies with institution based system where may be opportunities for ties-ins with library content and services. Libraries would offer access to dictionaries or other language reference tools that would be cell-phone compatible.

Many individual around the world who are involved in developing, using, and monitoring technologies in higher education believe that mobile computing has great significance for our education institutions.

5. Services offered through Mobile Technologies in Libraries:

Mobile technology is changing the relationship between libraries and their users by expanding services and posing new development. It may offer tremendous flexibility for those who want to take advantage of library services. A user lying on a bench can access e-books and content from the library. The following are few services library could offer via mobile devices.

5.1 Alert Services

Existing e-mail alert services like bringing new books to the notice of users for suggestion, intimation of arrival of indented documents by users, informing availability of reserved documents for collection, appraising about which/when books are overdue, e-journals subscribed, change in timings, information about important events, etc., can be upgraded by sending through SMS/text alert services to meet the information needs of users. Such alert notifications can be generated automatically using integrated library management system/software. SMS messages can be sent to group of users simultaneously through many free applications, and intermediary websites/clients.

5.2 E-resources with Mobile Interfaces

The discussion about mobile library services often now focuses on e-reading or e-book reading. The

popular adaptations of mobile devices, including e-readers and the e-reading apps available have sparked the current blaze of interests in e-books. E-books or E-journals provided free of cost from the library to the users on their mobile devices. Using free Plucker e-book viewer, one can access about 25,000 free e-books from Project Gutenberg. Mobipocket of Amazon is one of the standard e-book reader applications and the website has over 45,000 titles (about 12,000 free). LibroVox is a collection of free audio books from the public domain. Elsevier's Science Direct, PubMed, EBSCOhost, Encyclopaedia Britannica, American Institute of Physics etc., are already offering their databases for mobile devices.

5.3 Messaging or Texting for Reference Services

The reference and referral services have already become virtual with ICT applications and internet. The mobile devices can further appreciate the service with instant answers like definitions, meanings and other information from digital libraries and web. Libraries may use web-based free instant messaging services from Google, Way2SMS, 160by2, Youmint, Indy rocks etc., as an intermediary to have interactive sessions with users to answer 'reference queries'. They can also provide Current Awareness Service (CAS) and Selective Dissemination of Information (SDI) by implementing mobile technologies. Through mobile technology they can scan the newly published documents then select the items as per the relevant need, record them and then

disseminate to the users according to their need.

5.4 OPAC on Mobile Phones:

Online Public Access Catalogue (OPAC) service can also be given to the user through mobile devices. It will be easier for the user to check about the contents of the library holding. The user will be able to know whether book is available in the library or not. Libraries are required to interact with the software vendors to create mobile compatible WebOPACs. For example, AirPac add-on product will auto detect the type of device you are using and format accordingly the catalogues without graphics for better viewing.

5.5 Library Instructions and Virtual Tours

Library tours, instruction/induction/orientation programs have been quite significant in bringing the nonusers to libraries and also help the remotely located or users located in different geographical locations. Users might be provided with virtual tours of the library sections and their services. For instance, Library of Congress provides an application prepared for the iPhone users which gives a virtual tour of Library of Congress that mirrors the main reading room, the great hall, the bible collection etc.

5.6 Career Guidance:

Library could offer services about the career guidance to the students. Information can be collected on the career guidance and send to the respective users through sms/mms services in their mobile devices.

5.7 Link Service:

Library can also offer Link services when a user wants to site a

page. The user can just send a request for demand of a particular link and the link could be provided instantly. This will save the time of the users and as well get the correct information without any difficulty.

5.8 Citation Styles:

The World Cat offers citation styles for many of its entries; students needing quick access to the correct citation format for the sources for their paper might find access to World Cat by cell phone to be useful.

5.9 Institutional Repository:

An institutional repository is a digital archive of the intellectual product created by the faculty, research staff and students of an institution and accessible to users both within and outside of the institution. If this service can be provided through mobile devices it will increase institution visibility, status and public value.

5.10 QR Codes on Mobiles:

QR code stands for 'quick response', and basically a two-dimensional bar codes that can contain any alphanumeric text and often used to store urls, text, etc., known as 'mobile tagging'. Data can be translated into a QR code by any QR generator, many of which are available as free download. Users simply enter the data to be translated, and the generator produces the code, which can then be displayed electronically or in printed format. Decoding the information can be done with any mobile camera phone that has a QR reader, which is freely available online for most devices.

Libraries can use QR codes to label books, journals, audio/visual, off

prints, add QR codes in Web OPAC and other places. Users with phones that have a camera and free QR reader software can take a picture of the QR code, and then the software decodes the picture, and translates the data into title, author, and location information that can be displayed on the phone.

5.11 Mobile-based Library Lending Service:

SirsiDynix launched a product called PocketCirc software that runs on a PDA that allows library staff to perform circulation tasks in any part of the library with wireless connectivity. This wireless solution also enables the staffs to assist patrons in the stacks, checkout materials while off site, such as at community or campus events, and update inventory items while walking around the library.

6. Existing Situation of Application of Mobile Technologies in Academic Libraries in North Bengal:

Table 1. reflects that the concerned study included ten private higher education institutions which are located at the northern region of West Bengal (commonly known as North Bengal).

The study covered the institutions of various disciplines. It includes General Degree College, Engineering College, Management College, Law College and Teacher Education College. Among the institutions which were included in this study, most of the institutions are located in the Darjeeling district.

Based on the application of Mobile Technology in libraries a survey has been conducted among some of the academic libraries of North Bengal. A telephonic interview has been conducted (during June 2014-July 2014) with the library professionals of these selected institutions. They were asked regarding the implementation of mobile technologies in their respective libraries.

Table 1. Details of the Institutions

Name of the Institution	Type of Institution	District	Whether Mobile Technology applied or not?	Want to apply mobile technology in libraries?
Gyan Jyoti College	General Degree	Darjeeling	No	Certainly
IIAS School of Management	Management		No	Not Sure
Indian Institute of Legal Studies	Legal		No	Certainly
Salesian College	General degree		No	As soon as possible
Siliguri Institute of Technology	Engineering & Management		No	As soon as possible
Surendra Institute of Engineering and Management	Engineering & Management		No	Certainly
Vidyasagar College of education	Teacher Education		No	Not sure
North Bengal St. Xavier's College	General Degree	Jalpaiguri	No	Certainly
IMPS College Of Engineering & Technology	Engineering	Malda	No	Certainly
Techno Global Balurghat	Engineering	South Dinajpur	No	As soon as possible

6.1 Analysis of Data:

Despite of having a good infrastructure and other well equipped amenities the institutions have not yet used the mobile technology.

- In some cases there is lack of awareness among the library professionals regarding the usefulness of mobile technology.
- Lack of awareness among the users' leads to the lesser demand of new innovative technologies.
- As some library professionals were aware of the technology but the role of librarian is not enough to implement new technologies as they are very much depended upon the top level management/authority for taking the decision.
- Hesitation to adapt new and emerging technology among the library professionals, due to lack of adequate training.
- Lack of technical staff to administer the modern technology library services.
- Most of the librarians showed a clear intention to implement the mobile technologies in their libraries as soon as possible.

7. Recommendation:

- Libraries can use free SMS sending sites like 160by2, Way2sms, Youmint, Indy rocks, GoogleSMSchannel etc. To provide SMS services.
- Library can offer workshops and training programme to their staffs.
- Libraries may employ workshops to each students and faculty about how to use new mobile devices in

providing services and how to upload content to their devices.

- On an experimental basis book alert and CAS services may be rendered by the libraries using free bulk sms services.

8. Conclusion:

Mobile technology is very prominent and becoming more users centric. Present penetration of mobile computing in all spheres of life seems that its application will become inevitable in library which may change the relationship between library and the users by expanding more services. With a simple 3G connection, user lying anywhere can access e-books and multimedia content from libraries.

Mobile implementation should be customized based on the library, budget, staff, and community and revaluated after sufficient information has been obtained to determine usefulness. The newest and the most adventurous innovations attract attention, but a simple mobile library website or text messaging reference service may be just meeting the immediate needs of the library users. In addition such a service present libraries with an opportunity to gather important feedback from their community, at a time when it is especially valuable to those advocating for equitable access to electronic information. Mobile technology also satisfies the five laws of library science by providing right information, to the right user at the right time.

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Congratulations - Award of Ph.D.



Dr. Ravindra Kumar Gupta has been awarded Ph.D. in Library and Information Science from M.P. Bhoj Open University, Bhopal. His topic was "**Organisation, services and use of Museum Libraries of Madhya Pradesh: A comparative study**". He has done his research work under the guidance of **Dr. Sanjiv Saraf** Deputy Librarian, Bararas Hindu University, Varansi.

Components for Digital Libraries

Rajesh Kumar Lohiya*, Vijay D. Madkey**, &
Dr. (Mrs.) Jiji Cyriac***

Abstract:

In the rapid changing environment in the field of information technology libraries are focussing on conversion of traditional libraries in to digital libraries or digital repository. The present paper discusses on the competencies for digital libraries such as development of infrastructure, software, digital resources, and the related aspects concerned with library professionals.

Introduction:

Digital libraries or digital repository, information networks, library consortia, electronic document delivery, internet and intranets, web-pages have become the buzzwords in today's library environment. Thousands of digital library projects are underway depending on the way the concept of digital library is accepted by a particular library. These nevertheless demand competencies beyond what are achieved through academic curricula of the library science schools. This paper seeks to present a bird's eye view of the competencies required from the library professionals to effectively manage the changing environments of the libraries.

Digital libraries have been variously defined and each digital library initiative is unique in itself. Arms define a digital library as "a managed collection of information with associated services, where the information is stored in digital formats and accessible over a network". Borgman provides the definition from two perspectives i.e., "from research perspective, digital libraries are content collection and organized on behalf of user communities. From

library practice perspective, digital libraries are institutions and organizations that provide information services in digital forms". Most of the libraries however would accept the hybrid library model which according to Rusbridge is "designed to bring a range of technologies from different sources together in the context of working library and also to begin to explore integrated systems and services in both electronic and print environments". Nevertheless, the digital library initiatives have to address carefully the issue of digitization of library's own collection selectively and developing digital collection and provides services where technology and networking play a crucial role. While prototype projects on digitization of own resources and making such collections accessible over institutional and outside networks are being undertaken, libraries are already acquiring and developing digital collection in variety of formats from several sources such as publishers, others libraries, agencies etc.

In the context of modern libraries various nomenclatures have been used such as paperless libraries,

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libraries without walls, electronic library, networked library, e-library, information superhighway, virtual library, hybrid library etc. The most common of these are digital library, virtual library, electronic library and hybrid library.

Digital Library:

Digital library or digital repository or electronic library is a focused collection of digital objects that can include text, visual material, audio material, video material, stored as digital formats along with means for organizing, storing, and retrieving the files and media contained in the library collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals, organizations, or affiliated with established physical library buildings or institutions, or with academic institutions. The electronic content may be stored locally, or accessed remotely via computer networks.

The term digital libraries were first popularized by the NSF/DARPA/NASA Digital Libraries Initiative in 1994. These draw heavily on as we may think by Vannevar Bush in 1945, which set out a vision not in terms of technology, but user experience. The term virtual library was initially used interchangeably with digital library, but is now primarily used for libraries that are virtual in other senses (such as libraries which aggregate distributed content). A description of the initiatives and understandings leading to digital libraries is given in.

A distinction is often made between content that was created in a digital format, known as born-digital,

and information that has been converted from a physical medium, e.g. paper by digitizing. It should also be noted that not all electronic content is in digital data format. The term hybrid library is sometimes used for libraries that have both physical collections and electronic collections.

Advantages of Digital Library:

The advantages of digital libraries as a means of easily and rapidly accessing books, archives and images of various types are now widely recognized by commercial interests and public bodies alike.

Traditional libraries are limited by storage space; digital libraries have the potential to store much more information, simply because digital information requires very little physical space to contain it. As such, the cost of maintaining a digital library can be much lower than that of a traditional library. A physical library spends large sums of money paying for staff, book maintenance, rent and additional books. Digital libraries may reduce or, in some instances, do away with these fees. Both types of library require cataloging input to allow users to locate and retrieve material. Digital libraries may be more willing to adopt innovations in technology providing users with improvements in electronic and audio book technology as well as presenting new forms of communication such as wikis and blogs; conventional libraries may consider that providing online access to their OPAC catalog is sufficient. An important advantage to digital conversion is increased accessibility to users. They also increase availability of digital information resources to

individuals who may not be traditional patrons of a library, due to geographic location or organizational affiliation.

The activities in such digital libraries encompass a wide range as exemplified below:

- Development of IT related infrastructure
- Procurement of software
- Digital resources development
- Online public access catalogue
- Information organization and consolidation
- Database development
- Electronic document delivery
- Participation in library consortia
- Intranet-based information services
- Network based services
- User training
- Digitization
- Cooperative Catalogue
- Internet connectivity
- Contents creation
- Quality in Libraries

Development of IT related infrastructure:

No librarian of today can survive professionally without the knowledge about computer and their components such as hardware, operating systems, storage capacity, RAM, ROM, networking requirements, client-server environment etc and also the related developments in scanners, printers, barcoding or RFID equipment and many more.

Procurement of software:

Use of information technologies in libraries, there are various software has been developed

for library automation, database development, information management, etc. The library managers must equipped with latest knowledge about software as exemplified below:

- Library Automation Software
- Database Management Software
- Digital Library Software
- Institutional Repository Software
- Content Management Software

Digital Resources Development:

The librarian needs to explore the various e-resources including e-journals, e-books, e-databases for his organization's subject areas. He also needs to have knowledge about the free online resources which is very useful for users of organization. At the time of purchasing of e-resources, you have to keep some points such as: legal terms, the access period, the facilities offered, content alert, citations alerts, interactive features, concessions to authors etc. need to be carefully studied.

Online Public Access Catalogue:

The OPAC is the mirror and important service in the libraries that creates a positive impact on the users as it provides an instant key to vast library holdings. Librarian need to have knowledge to develop and evaluate this product from time to time through feedback from the users. OPAC made available over the intranet as well internet obviates the necessity for personal visit to library for searching.

Information Organization and Consolidation:

This is highly professional task that necessitates knowledge about metadata, bibliographic formats, indexing, classification etc.

Database Development:

This is an important activity for LIC managers. They need competence in identifying the areas for database development, the document types to be covered, the software, the standards, interoperability accessibility to users from within and outside as also marketing of the database developed. This activity is highly intellectual, time & effort consuming, nevertheless user centric vital activity.

Electronic Document Delivery:

Document delivery, manual, Xerox, scanned copy as well as online is important service for the end users. Electronic document delivery fulfills the requirement of fourth law of library science writing by Dr. S. R. Raganathan "saves the time of the user" and librarian also. Librarian must be equipped with knowledge on mechanism of scanned copy or online document delivery and the rotated copyright rules also.

Participation in Consortia:

Library Consortia are important development in cooperation and collaboration between and amongst libraries with an intention to share/acquire information resources effectively and economically. This activity again demands assessment of user needs, infrastructure, required subscription models of various publishers, negotiations with publishers, usage monitoring, etc.

Intranet Based Information Services:

Introducing various intranet based services for enhancing the use of information resources such as Online Public Access Catalogue, electronic document delivery, access to institutional repositories. Bibliographic databases, electronic information resources such as CDs and online databases free information resources, links to important agency web-sites, library pages etc and message alerts are activities that demands continuous managerial and technical inputs and interactions with users for effective information services.

Network Based Information Services:

Librarian must develop the capability to introduce digital information services on the internet, through development of web page of the library, OPAC and Institutional Repository, introduce services that can be useful for larger group of individual / institutional users. Showcasing the library's strength can be best achieved through network based information services.

User Training:

Users' training is essential in view of new information products and search facilities to train the novice users. Librarians themselves can offer training to users from time to time. Training from various publishers or vendors also can be provided to demonstrate how to use the e-resources effectively and efficiently.

Digitization:

Librarian needs to know the contents to be digitized, the software's available, the copyright issues, the workflow, the preservation, the organization etc. For example development of institutional repository for papers, reports, etc. of parent organization.

Cooperative Catalogue:

These are extremely important for resource sharing. The networked environment enables successful development and effective utilization of cooperative catalogue, e.g. Union Catalogue of Serial Holdings as well as books. Librarian need to recognize the importance of giving inputs in standard manner and always adhere to the updating schedules of such activities. Similar cooperative ventures are also being made for online resources.

Internet connectivity:

Internet connectivity has become an indispensable component for digital libraries. Librarians need to have continuous updated knowledge on the modalities, the infrastructure, costs etc.

Contents Creation:

This activity again involves considerable intellectual inputs, deep study, comprehensive information resource base and an assessment of the user needs whereby the created contents would be welcomed by the end users.

Quality in Libraries:

In the library science schools, librarians are constantly trained to

adhere to working standards that ensures quality in their work and services. Today, special quality certifications are given and the librarian needs to have requisite knowledge on the procedure for getting quality certifications in the library.

Obviously the librarians need to develop competencies to acquire skills in below listed areas:

- Managerial
- Technological
- Technical
- Discipline Oriented Knowledge
- Teaching/ Training
- Project Management
- Communication
- Research
- Subject Area
- Up to-date Knowledge base

Such knowledge base development has to be continuous process and can be achieved through ways given below:

- Experience
- Training : Formal and Informal
- Participation in Workshop/Conference
- Continuous browsing of information resources
- Experimenting with new Techniques, New work standards
- Exploring newer resources on the intranet
- Undertaking prototype projects
- Continuous interaction with end users

Epilogue:

In the changing environment of digital library, librarian has to play a vital role to cope up with the new

trends of knowledge management. The librarian must have commitment to continuous learning for developing skills to improve the digital resources and services.

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RESURGENCE NEED OF NAVODAYA VIDYALAYA LIBRARIES: A CASE STUDY OF BHOPAL REGION

Dr. Krishna Pal Singh Chouhan* & Dr. R.G. Garg**

Abstract

This paper explores the result of the study based on Navodaya Vidyalaya libraries of MP, Odisha and Chhattisgarh under Bhopal Region. Total 98 libraries of study area and 1372 users (686 students and 686 teachers) were surveyed with the help of two structured questionnaire. This study provides the existing situation of resources and services offered in JNV libraries of MP. School libraries are hub of the all curricular and extracurricular activities. So, they must be well equipped for all round development of the students. The significant findings in the study are discussed herein. In this article a model is proposed to revitalize school libraries to meet present information and technological environment of twenty first century.

Keywords: Jawahar Navodaya Vidyalaya, School Libraries

INTRODUCTION

Navodaya Vidyalaya system is proved to be unique system under the Ministry of HRD, Govt. of India, due its best features. Navodaya Vidyalaya provides education to such talented children who deserve to get good education, but they are not in the position to afford it. Here rural talented students get best facilities in all ways and free of cost. In Navodaya's residential set up students of high potential are getting best education. Navodaya Vidyalaya is proved to be a boon to these talented and gifted children. Without Navodaya the dreams of such children would not be fulfilled. In Navodaya they are getting quality education and in best way. So, National Education Policy 1986 has recommended establish coeducational residential institutions called Jawahar Navodaya Vidyalaya. Navodaya vidyalayas is functioning in each district of the country except Tamilnadu state. These schools were started with two experimental schools in 1985-86 at Amravati district of Maharashtra and Jhajjar district of Haryana and at present total sanctioned JNVs have grown up to $576 + 19^{**} = 595$ out of which $567 + 16^{**}$ are in functioning

position covering almost all district of the country in 27 states and 7 Union territories which cover 1.8 lakh students on rolls. (** Extra JNVs in Schedule Caste / Schedule Tribe populated districts).

OBJECTIVES OF THE STUDY

The Present study was carried with following objectives.

1. To Study the status of Jawahar Navodaya Vidyalaya Libraries of Bhopal Region.
2. To highlights the resources and services of Jawahar Navodaya Vidyalaya libraries of Bhopal Region.
3. To determine the need of school library consortium and modern e-resources in school libraries.

AREA OF STUDY

There are total 583 Jawahar Navodaya Vidyalayas in India, of which only 98 of Bhopal Region were taken under survey which covers Chhattisgarh, MP and Odisha. Data were collected from 2007-2008 to 2010-2011. There are 17 vidyalaya in Chhattisgarh, 50 vidyalaya in M.P. and 31 vidyalaya are running in Odisha state.

METHODOLOGY

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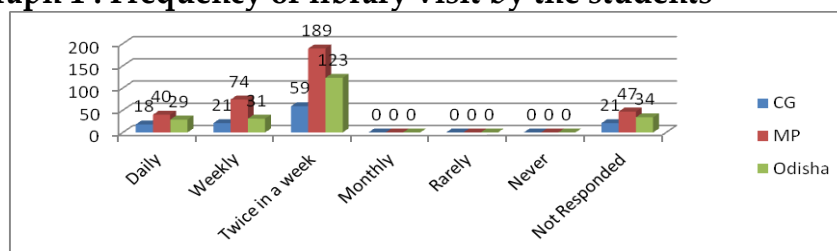
To collect the required information, two different questionnaires in structured format were formulated. First questionnaire was prepared to gather information from users, which include students and teachers from each school of study. The first part of the questionnaire dealt with the general information of the users and rest of the questionnaire contained the questions on user's views on library services and resources.

Second questionnaire was prepared to collect the required information on resources and services from librarian. This questionnaire was prepared for the collection of data from the librarian

of each school regarding the budget, collection, IT applications in library, user analysis, selection policy, acquisition policy, staffing, circulation, resource sharing & networking, weeding, storage & preservation and other library operations. Judgment and quota sampling method was used to provide justice, to the all schools comes under present study. A total of 1372 questionnaires were distributed among the users of 98 JNVs under Bhopal Region. The collected data during the research work was first analyzed according to identical variables like students and teachers.

DATA ANALYSIS

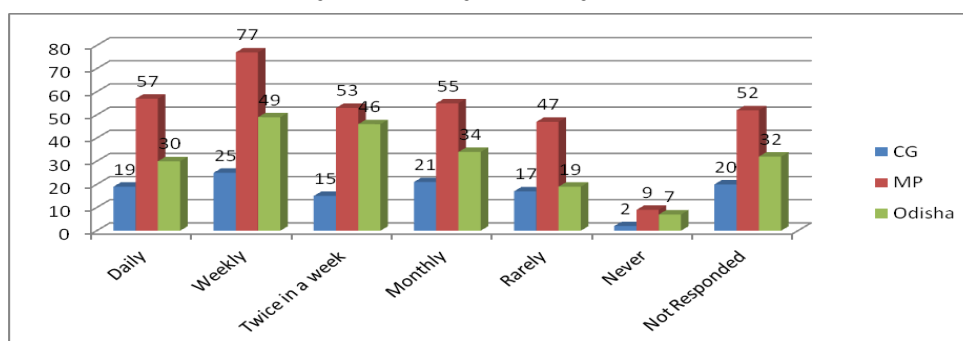
Graph 1 : Frequency of library visit by the students



Graph 1 shows the frequency of library visits by students in Chhattisgarh, MP and Odisha. The users under this category used the library frequently to fulfill their information needs; they visit library in library hours and at extra time when they want some information from library. The higher proportion of the students visit to use the library twice in a week i.e. 371

(54.08%) whereas 126 (18.36%) visit the library weekly, 87 (12.68%) visit the library daily and 102 (14.86%) not responded. Result shows that most of the students come to the library twice in a week due to library period fixed in academic time table of the school and the frequency of daily visit in library is very less.

Graph -2: Frequency of library visit by the teachers



Graph 2 shows the frequency of library visits by teachers. It is observed that 106 (15.45%) teachers visit the library daily, 151 (22.01%) visit library weekly and 114 (16.61%) visit twice in a week, 110 (16.03%) visit library monthly, 83 (12.09%) visit library rarely, 18 (2.62%) never visit library and 104 (15.16%) not responded. Result shows that the

tendency of library visit by teachers is not good. Highest percentage goes to weekly. It was noted that during the survey period and discussion with the teachers, due to tight academic/ class schedule they don't have sufficient time to use the library. In addition they also use the library whenever need arises.

Table - 1 : Sources mostly preferred by the students

S.N.	State	Books	Print Journal	E-Journal	Encyclopaedias	Dictionaries	CDs/DVDs	Any other
1	Chhattisgarh	98	90	0	44	41	15	21
2	MP	303	285	0	146	133	36	43
3	Odisha	183	149	0	92	88	28	35
	Total	584	524	0	282	262	79	99

The analysis of information sources preferred by the students is given in table 4 shows the results of preferred information sources in libraries to fulfill their information needs. Maximum students 584 (85.13%) preferred books for their curricular needs. Print Journals (magazines) 524 (76.38%) also preferred by the students at the same time. Encyclopaedias and dictionaries were preferred by 282

(41.10%) and 262 (38.19%) the students respectively. On the other hands 79 (11.51%) students preferred CDs and DVDs and 99 (14.43%) students like to prefer other sources like manuals, reports, govt. publications etc. Result shows that the students prefer books than other sources of information while other information sources also preferred at the same time.

Table - 2: Sources mostly preferred by the teachers

S. N.	State	Books	Print Journals	E-Journal	Encyclopedia	Dictionaries	CDs/ DVD	Any other
1	Chhattisgarh	94	74	3	23	6	12	8
2	MP	296	156	5	44	22	38	28
3	Odisha	193	182	4	32	17	19	14
	Total	583	412	12	99	45	69	50

The analysis of information sources preferred by the teachers is given in table 5 shows the results of preferred information sources in libraries to fulfill their information needs. Maximum teachers 583 (84.98%) preferred books for their teaching

purpose. Print Journals (magazines) 412 (60.05%) were also preferred at the same time. There are 12 (1.74%) teachers who preferred E-Journals by their own arrangements. Encyclopaedias and dictionaries were preferred by 99 (14.43%) and 45

(6.55%) the teachers respectively. On the other hands 69 10.09%) teachers preferred CDs and DVDs and 50 (7.28%) teachers like to prefer other

sources like manuals, reports, govt. publications etc. Result shows that the teachers prefer printed books than other sources of information

Table- 3: Mode to get the required information from library

S.N.	State	Library Catalogue	Librarian	OPAC Search	Through Self	Through Internet
1	Chhattisgarh	X	√	√*	√	√
2	MP	X	√	√*	√	√
3	Odisha	X	√	√**	√	√

(*) = more than 25%

(**) = more than 50 %

Table 3 shows mode to get the required information from the library. Library catalogue was not available in any library. Librarians help users in finding the required information in each school. More than 25% schools of Chhattisgarh and MP have OPAC search facility in

their libraries where as more than 50% libraries in Odisha have OPAC search facility. Maximum users can browse their information sources directly from self. Users can also browse their required information through Internet from library or Computer laboratory of the school

Table - 4 : Allocation of budget for library books

S.N.	STATE	2007-08	2008-09	2009-10	2010-11
1	Chhattisgarh	20000	30000	30000	30000
2	MP	20000	30000	30000	30000
3	Odisha	20000	30000	30000	30000

Table 4 showing that the different JNV libraries allocated budget for books are near to same for

every year. Some budget kept by NVS head quarter for centrally purchase of books.

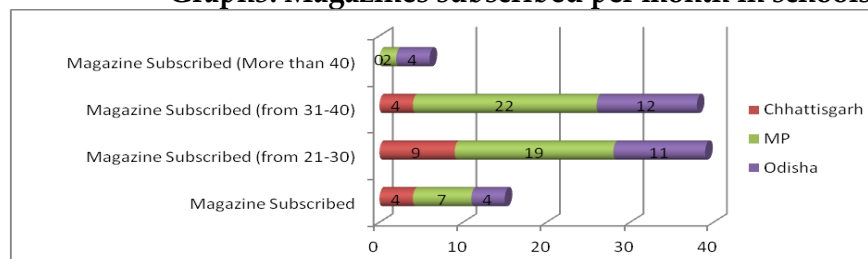
Table - 5 : Allocation of budget for magazines

S.N.	STATE	Minimum	Maximum
1	Chhattisgarh	5000	12500
2	MP	6000	15000
3	Odisha	6500	36000

Magazines are the good source of Information for school Community. Average minimum budget spent on magazines are Rs. 5000/-, Rs. 6000/- and Rs. 6500/- in Chhattisgarh, MP and Odisha

respectively. Whereas the maximum budget spent on the subscription of magazines are Rs. 12500/-, 15000/- and 36000/- in Chhattisgarh, MP and Odisha respectively in last four years from 2007-08 to 2010-2011.

Graph3: Magazines subscribed per month in schools



Graph 3 shows the subscription of magazines in school libraries of area of study from 2007-8 to 2010-11. In CG 4 schools subscribed 10-20 magazines, 9 schools subscribed 21-30 magazines and 4 schools subscribed 31-40 magazines. In MP 7 schools subscribed 10-20 magazines, 19 schools subscribed

21-30, 22 schools subscribed 31-40 and 2 schools subscribed more than 40 magazines. Whereas in Odisha 4 schools subscribed 10-20 magazines, 11 schools subscribed 21-30, 12 schools subscribed 31-40 and 4 schools subscribed more than 40 magazines.

Table - 6 : Subject wise average existing collection of libraries

S. N	STATE	Science & Technology	Language & Literature	Arts & Humanities	Career & Counseling	Commerce & Management	Others	Total
1	Chhattisgarh	1735	2725	795	65	1485	1095	7900
2	MP	2079	1907	886	135	379	2005	7391
3	Odisha	2000	3500	2000	75	80	1970	9625

On analysis of the data on existing collection in libraries of Chhattisgarh, MP and Odisha, subject wise collection varied from library to library. Languages and literature books are available

abundantly in most of the libraries which are followed by the Science & Technology. While least books recorded from Career & Counseling and commerce subject respectively in all libraries of study area.

Table- 7 : Availability of IT resources in libraries

State	Servers	PCs	Printers	Scanners	Any other
Chhattisgarh	Nil	Single PC in 100% libraries	35%	Nil	Nil
MP	Nil	Single PC in 100% libraries	40%	Nil	Barcode Scanner in 20% libraries
Odisha	Nil	Single PC in 100% libraries	45%	Nil	Barcode Scanner in 15% libraries

Table 7 shows the availability of hardware infrastructure in Libraries. All libraries of area of study have single PC for all library operation. In Chhattisgarh 35% libraries have printer, in MP 40%

libraries have Printer and in Odisha 45% libraries have printer. Very few libraries have Barcode scanner (20% libraries in MP and 15% of Odisha). It reflects the poor hardware infrastructure in libraries.

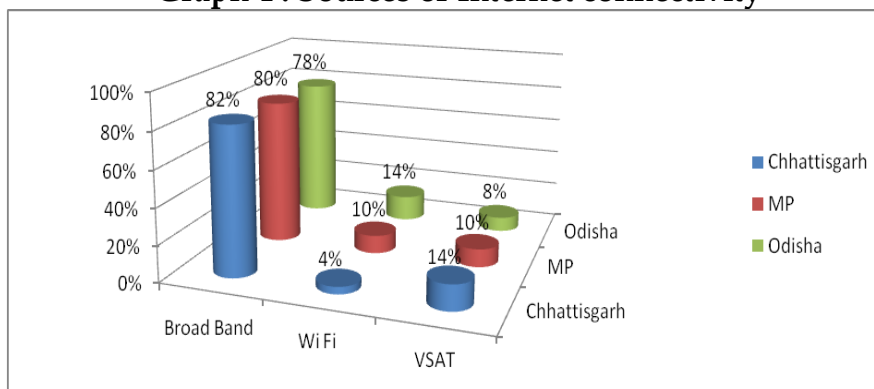
Table - 8: Internet connectivity in libraries and its relationship with speed

S.N.	State	Yes	No	Internet Speed		
				Adequate	Inadequate	I don't Know
1	Chhattisgarh	45%	55%	X	X	√
2	MP	42%	58%	X	X	√
3	Odisha	52%	48%	X	X	√

It is the most useful tool which can enhance the student knowledge in appropriate manner and work like a torch bearer. In Chhattisgarh only 45% JNV libraries have the Internet facility where as in MP 42% libraries have the internet connectivity and in Odisha only 52 %

libraries have the internet facility. Data represented very poor condition of internet facility in IT era. This may be due to some remote location of JNVs. Librarians of area of study have no idea about the speed of the internet connection in libraries.

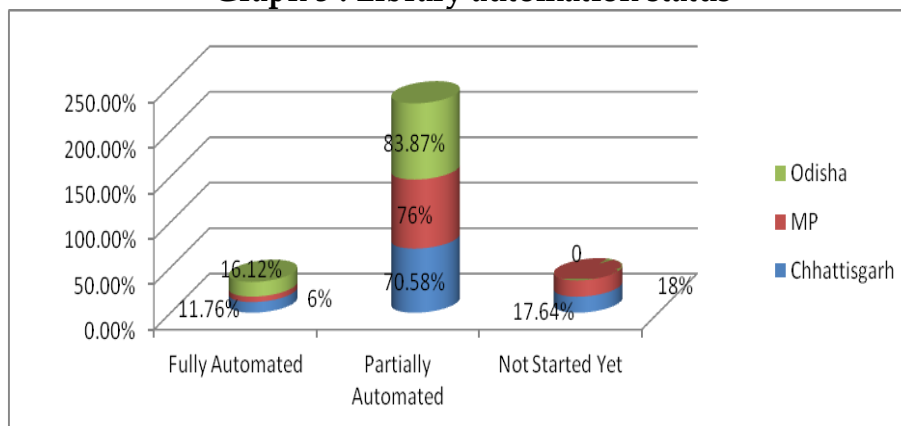
Graph 4 : Sources of Internet connectivity



Graph 4 shows the sources of Internet connectivity in schools of study area. In Chhattisgarh 82% schools have broad band connection, 4% wi fi connection and remaining 14% through VSAT. In MP 80% schools have broad band connection, 10% wi fi

connection and remaining 10% through VSAT. While in Odisha 78% schools have broad band connection, 14% wi fi connection and remaining 8% through VSAT. Maximum schools of study area have the broad band connection.

Graph 5 : Library automation status



Graph 5 reflects the automation status of the libraries in three states. In Chhattisgarh, 11.76% libraries are fully automated; 70.58% libraries are partially automated and in 17.64% libraries automation yet be started. In MP, 6% libraries are fully automated; 76% are partially automated and in 18% libraries automation is yet to be

started. Whereas the conditions of Odisha libraries are much better than MP and Chhattisgarh where 16.12% libraries are fully automated and 83.87% are partially automated. Result shows the better position of library automation in Odisha is due to the interest of authorities and outer support.

FINDINGS AND SUGGESTIONS

From analysis of library budget, collection, user's satisfaction, selection policy, acquisition policy, staffing, resource sharing, weeding process, storage and preservation shows the status of library resources and services of libraries of JNVs of Bhopal region. Findings derived from the survey of users and libraries are as follows.

The amount of budget fix for purchase of information resources is insufficient.

In print media books, reference books, print journals / magazines, reports, maps/atlasses, conference proceedings and news papers were found in the collection of all libraries. In non print format only CDs/DVDs, audio visual materials and CD-ROM databases (course material) were found in libraries of study area. Whereas information sources such as e-Journals, e-Books, and online databases were not subscribed in any library. Information sources for competitive examinations available were very old in most of libraries.

- ❖ Libraries under study have single PC for all library operation. In Chhattisgarh 35% libraries have printer, in MP 40% libraries have Printer and in Odisha 45% libraries have printer. Very few libraries have barcode scanner (20% libraries in MP and 15% of Odisha).
- ❖ The automation status of libraries of study area is not satisfactory. Automation was done in limited in house activities i.e. cataloguing and OPAC search only.
- ❖ Students and teachers have the poor tendency towards the issue of books.
- ❖ The libraries of all three states provided reference service, document delivery, CAS, press clipping, library based activities for promoting reading, career & counseling, ready

and updated information for forthcoming events, special resources for preparation of competitions and gesture for personality development.

- ❖ In majority of libraries books and print journal/magazines have strongly preferred to purchase. There is no selection and acquisition policy for purchase of resources.
- ❖ Libraries of JNVs have no resource sharing programme with other libraries.
- ❖ None of the library under study has the membership of national network. Most of the librarians were looking forward for school library consortium and national level school library network by which the problem of scarcity of resources can be solved.
- ❖ Libraries of JNVs have no weeding policy for discarding outdated, mutilated and unserviceable reading materials.
- ❖ Evaluation of collection was not followed in libraries of study area.
- ❖ Daily visit of students as well as teachers were very less. It reflected that the poor interest towards reading.

SUGGESTIONS

Following suggestions may help to improve the present condition of JNV libraries:

- ❖ Automation status of JNV libraries is not satisfactory. It is necessary to automate all the libraries of JNVs for effective use of library resources.
- ❖ It is suggested to formation of school library consortium for networking and sharing of resources among the member libraries.
- ❖ Online information sources for school community like tutorials, lectures, projects, teaching techniques, question banks, examination materials for competitive exams, online test, career counseling portals,

personality nurturing portals, learning videos, skill development portals, e-books, e-journals and reference materials etc. should be made available to library users by school library consortium.

- ❖ It is recommended to follow standard fixed for school library infrastructure like in building, furniture and other equipments for library.
- ❖ Human resources are the important aspect of any organization. Other supporting staff should be appointed in libraries according to prescribed norms of Bureau of Indian Standard (BIS).
- ❖ It is recommended to increase the budget amount to justified level.
- ❖ Free online educational portals should popularize among the students for help in teaching - learning process.
- ❖ Each and every activity of school may be supported by library resources, which may promote the reading habits of students.
- ❖ It is compulsory to provide the internet connectivity in all libraries with proper speed.

PROPOSED MODEL FOR SCHOOL LIBRARY CONSORTIUM

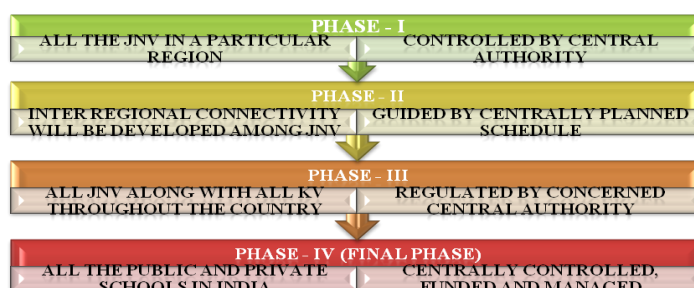
In the school level consortium, it is deep demand of shared budget consortium. The burden of cost of management of resources will be shared among the schools under the supervision of an individual authority which can take

initiatives and regulate all the rules, resources and funds. There will be a memorandum of understanding among school to share the budget which includes centrally controlled server, database storage, internet service provider, web space, high speed connectivity, hardware and software required and many other relevant but most important expense.

This model will be implemented in following four phases:

- ❖ **Phase I: Regional Level** - JNVs of one region will participate there resources under the supervision of a central authority (either CBSE or NCERT) which has higher resources and commanding power over all the school to maintain benefits of all the participant schools. This phase will be funded by NVS RO first.
- ❖ **Phase II: Inter Regional Level** - In phase II, inter regional connectivity of all JNVs should be developed after elimination of all the problems and drawbacks of the phase -I model.
- ❖ **Phase III: Inter Organisation Level** - After that, all the schools of NVS and KVS will be included with accessibility through IP addresses.
- ❖ **Phase IV: National Level** - At last, it will be implemented on nationwide by including all NVS, KVS, public and private school to enjoy the available shared resource which will enrich the curriculum of the students in nation.

Proposed model for school library consortium



CONCLUSION

School library user community should get right information, at the right time and in right way. It is not possible through the traditional library system. To fulfill the objectives of parent organization; it should be enriched with all types of resources. School library should become the centre for all curricular and extracurricular activities. JNVs library should start the concept of resource sharing through formation of school library consortium. Proposed school library consortium would bring a positive change in library system of schools.

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Role of Management Libraries in Career Guidance of Students: A Study with Special Reference to Solapur University

P. B. Ghante*

Dr. P.V. Adaskar**

Abstract

In this research paper the researcher has investigated career guidance services offered by the management institutes and described finding the truth. The purpose of this paper is to investigate the career guidance service offered by the management institutes libraries to its students. Management institutes libraries and librarians are playing a vital role in education system. This 21st century is known as information technology era hence career guidance and employment/ job opportunities services has provide by these libraries are very important to the student. This paper also discussed about the methods of disseminating of career guidance services to the students.

Key words: - Management, Career Guidance, Job, Employment Services, Users, Information, Technology

INTRODUCTION

The career guidance/ information services provided by libraries of higher educational institutions can be useful to students who are in the searching the job. In recent days it is very necessary to provide the right information to the right user/ student job searcher due to competition age and overflow of information.

The role played by libraries and library professionals in providing career related information cannot be neglected. For the effective dissemination of career guidance information as the librarian should be

knowledgeable with the techniques of current awareness service and selective dissemination of information, it would be easy for him/her to provide career information by making use of the electronic media, newspapers, magazines, job magazines, job news papers. In the present day librarians are trained in information technology so that they can make use of the fast developing internet facility for providing effective information services.

College librarian has a definite role to play in the career guidance as he /she is the source of all information and he/she holds the key to the world of knowledge.

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Management institutes affiliated to Solapur University, Solapur is as follows:-

Sr. No.	Name of Institute	Year of Estd.
1.	Hirachand Nemchand College of Commerce, Department of Management Studies, Solapur	1985
2.	D.A.V. Velankar College of Commerce, Solapur	2000
3.	Shri Vithal Education And Research Institutes, College of Engineering, Gopalpur Tal. Pandharpur	2008
4.	Sinhgad Institutes of Business Management, Kamlapur Tal. Sangola Dist. Solapur	2008
5.	Bharat- Ratna Indira Gandhi College of Engineering , Kegaon , Solapur.	2008
6.	Nagesh Karajagi Orchid College of Engineering And Technology, Solapur	2009
7.	K.P. Mangalwedhekar Institutes Of Management Career Development & Research , Solapur	2010
8.	Brahmdevdada Mane Institutes of Technology , Belati, Tal. N. Solapur Solapur	2010
9.	Department of Management , Solapur University , Solapur	2010
10.	SKN Sinhgad Business School (MBA) Korti Tal. Pandharpur Dist. Solapur	2010
11.	Sinhgad Business School , Kegaon , Solapur	2010

1. Need of the study:-

This study aimed at exploring and understanding the role of management college libraries in career guidance. This study may help to create awareness among the college management, librarians to identify what more they can do in serving the students/ user communities and how they can create an indentation in the life of the youth under their care.

2. Objectives:-

The following main objectives defined for the study area.

1. To identify the current position of the college libraries
2. To find out the services offered by libraries.
3. To study and examine the career guidance services
4. To suggest the methods of disseminating career guidance services

3. Hypothesis:-

The hypothesis has to be formed before embarking upon a study. The researcher has formed the following hypothesis to investigate the problem designed to study.

1. The position of the college libraries is good
2. Libraries providing services to users

3. Career guidance services provided by libraries will be helpful for the student

4. Scope and limitations:-

The present study is restricted to management colleges affiliated colleges of Solapur University, Solapur, there are 11 colleges are affiliated to this university.

5. Sample size:-

All management colleges affiliated to Solapur University, Solapur will be covered in this study. In Solapur University jurisdiction 11 management colleges are affiliated and all management colleges will be covered for study.

Sample unit: - 1) Librarian**6. Review of Literature:-**

The researcher has scanned the published work on this topic, on websites of universities and Indian ETD repositories.

<http://shodhganga.inflibnet.ac.in/>

And found only one thesis title on relevant study.

1. ROLE OF COLLEGE LIBRARIES IN CAREER GUIDANCE

A Study of Government and Autonomous Colleges Affiliated to Andhra University.

A Thesis Submitted to the Andhra University for The Award of the Degree of Doctor of Philosophy In Library and Information Science, 2007

By MOLY T.M, Lecturer in Library & Information Science CH.S.D.ST. Theresa's Autonomous College for Women, Eluru

Under the Guidance of Prof. Dr. R.S.R. VARALAKSHMI, Ph.D Department of Library and Information Science.

7. Research Methodology:-

In this present research paper the questionnaire techniques were used to collect the data. List of questions were formulated keeping in view of the objectives of the study and the same was distributed to 11 college Librarians and obtains 73% response from librarians. Further required information was collected from internet and college prospectus.

8. Data Analysis:-

Table No. 1 Status of Library & Library Staff

Sr.No.	Status	Yes	Percentage
1.	Library Automated	6	55%
2.	Availability of E-databases	7	100%
3.	Infrastructure for using E-databases	7	100%
4.	Collection of CD/DVD	7	100%
5.	Separate Digital Library Section	04	57%
6.	Availability of sufficient supporting staff	07	100%

From the analysis of the above table no. 1 show that 06 (55%) college libraries are automated and providing services with using IT technology, 7 (100%) libraries having e-databases for giving services to their users. 7 (100%) libraries have good infrastructure for use of e-databases. 07 (100%) library

has a good collection of CD/DVD's in their stock for library services. 04 (57%) library has a separate digital library section for their users to give services. 07 (100%) libraries have sufficient supporting staff for giving library services.

Table No. 2 Provision of Services

Sr. No.	Services	Yes	Percentage
1.	Career Guidance	05	71%
2.	Employment/job news clipping services	03	43%
3.	Internet Browsing Services	07	100%
4.	Document Coping in CD/ Pen drive	07	100%
5.	Circulation/Lending	07	100%
6.	Reprographic Service (Photocopy)	07	100%
7.	Inter Library Loan Service	03	43%

Data analysis of table no. 2 shows that 5 (71%) libraries providing Career guidance services to the students 03 (43%) libraries displaying employment/ job news clipping services to the students. 07 (100%) libraries providing internet browsing services to their users for searching

information on the net. Document coping allows in Pen drive, CD in 07 (100%) libraries. 7 (100%) libraries providing circulation /lending service to their users. Reprographic service is available in all 07 (100%) libraries. 03 (43%) libraries providing Interlibrary loan service to their students.

Table No. 3 Measurement of Services/Sources

Sr.No.	Particulars	Yes	Percentage
1	Does the library subscribe career guidance periodicals	06	86%
2.	Does your library conduct career exhibition/ fair	06	86%
3.	Does Library open in Sundays and Holidays	02	29%
4.	Does the library maintain user register in Library Section?	05	71%
5	Does the library provide resources to prepare for entrance tests?	07	100%
6.	Does the library keep suggestion library section?	06	86%
7.	Does Library take feedback from users?	03	43%
8.	Does library have good band width speed of internet	07	100%
9.	Does library have good computers?	07	100%
11.	Do you think college librarian has a role to play in career guidance	07	100%

Analysis from table no 3 shows that 6 (86%) libraries subscribed career guidance periodicals for their users. 06 (86%) libraries conduct career exhibition/ fair for their students' job. 02 (29%) libraries have working on Sundays and holidays for giving services to the students. 05 (71%) libraries maintain user registers in the libraries for calculating average visit of students in the libraries. 07 (100%)

libraries providing resources to prepare for entrance tests. 06 (86%) libraries keep the suggestion box in library for receiving complaints / ideas from users. 07 (100%) libraries have a good band with speed of internet connection and best computers in the libraries. 07 (100%) libraries feels that the college librarians play a good role in career guidance of the students.

Table No. 4. Methods of dissemination of Services

Sr. No.	Particulars	Yes	Percentage
1	Notice Board	06	86%
2.	E-Mail	06	86%
3.	Instant Messaging	02	29%
4.	Library blog	02	29%
5	Library Website	0	0%
6.	Face book	0	0%
7.	Twitter	0	0%
8.	E-News letter	0	100%

From the above data analysis of table no. 4 the methods of dissemination of career guidance /job information services are shows that in table no. the analysis of data shows that 6(86%) libraries has providing information through notice board and e- mail . 02 (29%) libraries are using

instant messaging and library blog tool to dissemination of information to the students. No one single 0 (0%) libraries using library website , face book ,twitter and e-newsletter for providing career guidance services to the students.

10. Conclusions and recommendations

In the age of ICT environment management institutes libraries are

playing a very vital role to provide better services to their users. Now a day's dissemination of career guidance information, job opportunities information is very essentials.

Management institutes libraries and librarians are playing very vital role in education.

In conclusion of all above data it is observed that librarians and libraries are playing a very vital role in providing information services career guidance to the students. All libraries should keep updating collections relating to career development of students.

It is also noted from the above data analysis that libraries should use IT tools like face book, twitter, and library website for disseminating career guidance/ job information. It is a need of today's era.

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Role of School Library in Disseminating Knowledge

Sangeeta Roy*

Abstract

School is the most important institution in any society. A school library plays an important role in helping the educational institution to achieve its goals. The school library is the soul, the core and the pivot around which academic life in the school revolves. Therefore, a school library is required to do close integration with the school educational programs. In this paper, a discussion has been made on the role of school library in disseminating knowledge not only to the school community but to the society as a whole.

Keywords: School library, Library resources.

1.0 Introduction

A library occupies a prominent place in any educational institution. Library is an essential part of a school. A school library stands as a "common literary laboratory for students of all ages and stages, and an indispensable agency for imparting real education through dynamic methods of teaching." In the past, school libraries were mainly based on the collection of those textbooks which were taught in the class for mental exercises only. But, the Secondary Education Commission recommended that each and every school should have a very good library.

With all types of good books, a well-stocked library inhabits the habit of extensive reading among the students. Through reading, a student develops a habit to judge about good books and his/her taste. The facilities at school library must make children library conscious. In order to serve the requirements of the educational philosophy of the school education, the library should be staffed, administered, equipped and organized in such a way that it becomes a

necessary contributing factor to the process of learning of the students.

2.0 Methodology

In this study, an attempt has been made to make aware about the role of a school library in disseminating knowledge through its various print and non-print materials. The study is based on collection of secondary data from different textbooks, reference books, websites etc.

3.0 Objectives of the Study

The main objectives of the study are:

- a). To know about the role of a school library in disseminating knowledge among the society.
- b). To discuss about the application of library resources in a school library through its aims and objectives.

4.0 Discussion

4.1 Aims and Objectives of School Library

A school library is called an active force in the educating process. A school library helps in progressive education, self-education, broadening outlook, wider interests, helps in extracurricular activities, use of leisure

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appropriately, love for book, discipline, inspiration, proper use of books, punctuality, silent reading etc. Except these, there are some broad aims and objectives of a school library for which it has been set-up. They are:

- To help the child to acquire 'reading habits' and 'self-study'.
- To teach skillful use of books for self-education.
- To develop amongst pupils the ability to learn from schools without teachers help.
- To create a lifelong flow of new knowledge.
- To provide fruitful civic, social and democratic experiences.
- To equip the teachers with materials required for teaching and their professional growth.
- To help an individual to develop full potentialities of his/her personality.
- To make the library as an agency for curricular enrichment, pupil exploration and the proper dissemination of good literature.
- To awaken and foster the intent in reading so that children become familiar with books as a source of pleasure and information.
- To demonstrate the desirability of books and libraries as companions in one's leisure.
- To facilitate the instructional program through different text and reference books.
- To provide reading materials to the pupils for 'answering questions, doing assignments and solving problems'.

4.2 Services of School Library

In view of the changing educational philosophy and pattern of a secondary education, the school library acts as a

coordinating agency for the curriculum development. According to H. G. Wells, "A school without an easily accessible library of at least a thousand volumes is really scarcely a school at all- it is a dispensary without bottles, a kitchen without a pantry." An excellent educational program cannot be developed without the provision and support of well-developed school library. To inculcate reading habits among the pupils and make individual instruction possible, the library should provide efficient services to its pupils. Some of the services which are provided by a school library to its children are:

- By building a well-balanced collection of books, audio-visual aids and pamphlets to the objectives and needs of the school.
- By providing assistance in finding out the institutional materials and sharing it with the teachers for guidance and stimulation of children reading.
- By making the materials readily available to the user community.
- By teaching and encouraging the use of library tools and materials.
- By knowing the children's interest and helping them to expand the interest through reading.
- By helping the children in broadening their outlook and knowledge through the use of books.

4.3 Library Resources

A school library mainly comprises of many resources which have a great role in disseminating knowledge to its users. These are used as an enriched resource for the work of the curriculum. These resources are used to inspire and develop a pupils

interests and pursuits and as a source of information which may be taught and practiced. Some of them are:

1). Book Resources

- Text-books: It contains variety of up-to-date text-books on various subjects.
- Reference materials: A school library should be well-equipped with reference materials like dictionaries, encyclopedias, directories, yearbooks, atlas (conventional reference books) and miscellaneous information and books on special subjects (non-conventional reference books).
- Unit booklets: It consists of topics ranging from family life and neighborhood to people of other lands and places.
- Literary materials: It consists of inspirational and imaginative literature, tales of adventure, books on children's hobbies, biographies, travel books, historical series etc.

2). Non-book Resources

Non-book resources of a school library may be referred to many printed materials which comprises -

- Periodicals (magazines on current events of life showing art, literature, music, dance etc.)
- Pamphlets (published by various govt. agencies and bureau pamphlets for specialized services)
- Newspapers (local, national)
- Special documents and publications (brochures, yearly-calendars, date-books, publications of state govt. etc.)

- Audio-visual materials (maps, globes, charts, graphs, models, films, film-strips, slides, radio, tape-recorders, projectors, television etc.)

5.0 Librarian as a guide and facilitator of information

In the words of report of Secondary Education Commission on librarian said "He will have to act as the pivot and inspiration of the intellectual and library firmament." Therefore, a librarian plays the role of facilitator of knowledge and facilitates spread of information. A librarian is the backbone of a library. Books will be of no use if the librarian is not there to cite the users as how to use books. S/he acts as a guide to the students in answering their questions and as a facilitator of library resources in both printed and non-printed form. S/he confirms whether the reading of the users is progressive or not. S/he should possess a tactful and sympathetic approach in handling the school children according to their age and class. In one hand, s/he is of friendly nature towards the students; on the other s/he is strict towards the undisciplined students as s/he is also playing the role of a teacher. As a librarian loves books, s/he is called as 'a live workshop' whose main aim is 'as many books into as many hands and their contents into as many heads as possible.'

6.0 Conclusion

A modern school library is called "intellectual laboratory of the school." A school library is the storehouse of knowledge, flowing stream of living thoughts and treasure value of the

ideas. It is an integral part of the school program. Therefore, it plays a great role in disseminating knowledge not only to the school community but to the society as well. It teaches human values and morals through reading of different resources which in turn is necessary to become a good citizen and a human being of high knowledge and values.

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EVALUATION MECHANISM OF E-RESOURCES ACQUIRED BY INDIAN INSTITUTE OF TECHNOLOGY LIBRARIES: A SURVEY

Dr. Amit Tamrakar* and Dr. Ram Gopal Garg**

ABSTRACT

The IITs in India are investing enormous fund for subscription of e-journals. The present study was designed to know the evaluation mechanism of e-resources acquiring by Indian institute of technology libraries and to identify the problems encountered by the seven major IIT libraries in e-collection development. A structured questionnaire was monitored among all librarians/ In-charge library of subject libraries, out of which 100% response was received. The present investigation shows that most of the IIT libraries are conducts e-resources evaluation process with the different objectives. IIT libraries send the users response regarding usefulness of the e-resources to the INDEST-AICTE consortium for betterment of its electronic services. IIT libraries have faced various common problems in e-collection development.

KEYWORDS: E-resources, E-collection development, Evaluation of E-resources, IIT Libraries

INTRODUCTION

Engineering institutions are facing increasing competition from a global digital environment and ongoing change in user needs and expectations of information services. Traditionally, the quality of libraries in engineering institutions has been described in terms of its collection and measured by the size of the library's holding and various counts of its use¹. Today the quality is measured in terms of digital collections, e-resources, networking component, ICT tools etc². Electronic resources present a number of hurdles not encountered with traditional library materials. In addition to the criteria that apply to analog materials, electronic publications raise complex issues around licensing, access, networking, pricing, ownership, and rapidly changing technology and standards. With electronic resources the selector cannot make a decision to

acquire an electronic resource in isolation and must liaise closely with other departments in the library to evaluate the suitability of a resource prior to the decision to acquire. To ensure consistency of approach it is good practice to establish clear guidelines and processes for the selection of electronic resources. Indian Institute of Technologies (IITs) are apex institutions for engineering education and research. The main objective of IITs is to impart world-class training in engineering and technology, and to conduct research in the relevant fields for advancement of learning and dissemination of knowledge. At present, there are sixteen Indian Institutes of Technology in India out of these, first seven are governed by The Institutes of Technology Act, 1961 which has declared them as "Institutions of national importance", and lays down their powers, duties, framework for

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governance etc. The quality of teaching and research in IITs is of international standards. The Institutes are continuously evaluating and modifying curriculaas per the emerging trends in the industry. They also contribute to updating the knowledge of faculty of other Engineering Colleges through Quality Improvement Programmes. Collection of e-resources of IITs has not only been steadily increasing but also being accessed by an increasing number of users. In addition to the e-resources being acquired from their own funds, IITs get access to over 12000 e-journals and databases through INDEST-AICTE Consortium³.

This study attempts to present a comprehensive overview about mechanism for evaluation of e-resources subscribed by the IIT libraries, the study present evaluate the various problems faced by the IITs libraries in e-collection development⁴.

E-RESOURCES AT IIT LIBRARIES

As stated prior, IITs have some of the most modernized libraries in the country and are pioneers in espousing latest tools and techniques of ICT to offer excellence services to their users. IIT libraries subscribed following E-Resources to their user community through INDEST-AICTE Consortium⁵.

1. ABI/Inform Complete
2. ACM Digital Library
3. Annual Reviews
4. American Society of Civil Engineering Journals
5. American Society of Mechanical Engineering Journals (+ A M R)
6. Capitaline

7. CRIS INFAC Industrial Information
8. EBSCO Database
9. Elsevier's Science Direct
10. Emerald Full-text
11. Euromonitor (GMID)
12. IEC Standards
13. IEEE/IEE Electronic Library Online (IEL)
14. INSPEC on EI Village
15. MathSciNet
16. Nature publications group
17. Optical Society of America(Optics Infobase)
18. Project Muse
19. SciFinder Scholar
20. SCOPUS Database
21. Springer Link
22. Web of Science

REVIEW OF LITERATURE

Das and Pragati⁶ focused on the use of e-resources by research scholars and faculty members of IIT, Kanpur. The main aim of this study was to identify the needs and requirements of users in general and to know the usage and awareness about e-resources amongst the research scholars and faculties of IIT, Kanpur. The study also reported to frequency of the use the e-resources for accessing information and to find how far their information needs were fulfilled by the information resources. Nisha and Naushad⁷ in his research paper use of e-journals by IIT Delhi and Delhi University library users, describe that most of the users are aware of e-journals and they are not only using them for building and updating their knowledge but also for collecting relevant material for their study and research purpose as information can be acquired expeditiously through e-journals.

Nisha, Ali and Ara⁸, studied the INDEST-AICTE consortium and UGC-Infonet consortium. Study examined the use of consortium by users of IIT, Delhi and University of Delhi. The results indicated that majority of users are aware about the INDEST and UGC-Infonet Consortia at IIT-Delhi and Delhi University. Slow downloading, lack of maintenance, raining, infrastructure and language are the major problems that would discourage users for accessing resources on INDEST and UGC-Infonet. Authors also suggested some suggestions for enhancing the use of resources available at INDEST and UGC-Infonet. Satpathy and Rout⁹ assessed and evaluated the use of e-resources by the faculty members of C.V. Raman College of Engineering (CVRCE), Bhubaneswar with a view to examine the exposure of faculty members to e-resources. The study highlighted the problems encountered by the users and suggested some remedial measures for its improvement. Kumar et. al.¹⁰ examined the use of collections and services at IIT Delhi library. The purpose of this study was to find out the effectiveness of information resources provided by IIT library. The study demonstrated and elaborated the various aspects of use, collections and services, purpose of visit to the library; adequacy of library hours, infrastructure facilities, use and collections of documents and internet information resources. The paper also identified levels of the use of various services provided, access of online databases services, database search techniques, and users' awareness

about different types of library network. Highlighted satisfactions with overall functions of the library and suggestions have also been given to make the collections and services more beneficial for the academic community of the mentioned technical institutes of India as well as abroad. Garg and Tamrakar¹¹ executed a study at IIT-Roorkee on users' view towards the efficiency of E-resources offered by the INDEST- AICTE consortium and found that the majority of users preferred the e-journals for their academic and research purpose. Most of the library users can easily find out the required information through INDEST. Users are fairly satisfied with the journals offered by the INDEST-AICTE consortium. Dhiman¹² mentioned the library as the centre for scholarly communication and faces many challenges in meeting needs of its users. Among the solutions used in libraries in providing information, an access strategy through web is very much requested by modern users. Ratha, Joshi and Naidu¹³ studied the design and structure of the library e-services of IITs and found significant differences according to some important point of view such as the user supporting services, number of hyperlinks on home pages etc. The paper finally looks the design and structure of the library information services of IITs. The authors compared various IIT libraries services to determine which the best is. Sutradhar¹⁴ described that how the Central Library, IIT-Kharagpur (CL, IIT-KGP) has been changing its direction from traditional library to electronic library and now again it is

moving toward digital library. He also discussed various digital resources available in the library and focused various aspects to creating standardized library e-services. He discussed the technological, infrastructure requirement and standard method for creation and preservation of digital library, with illustrated examples associated with the workflow processes and fishbone (Ishikawa cause and effect) diagrams for better understanding the digital library creation and preservation

OBJECTIVES OF THE STUDY

Present study is designed with the following objectives:

- To know about the mechanism of evaluating e-resources of seven IITs.
- To identify the problems encountered by the IIT libraries in e-collection development.
- To find out the main purpose of such e-resource evaluation system.
- To know about the efforts made by the IIT libraries to satisfy information requirement of their users.

METHODOLOGY

This study is based on the survey (questionnaire) method. Keeping in mind the basic objectives of the study, structured questionnaires were sent to the librarians/ In-charge of the seven major Indian Institute of Technologies, i.e. Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee, this was followed by few reminders. Personal visit were also made to interact with librarians and information professionals of aforesaid libraries to determine the clear picture

of the study. 100% response received back from all the subject libraries. The data collected through the questionnaires was scrutinized, classified and tabulated for better understanding and clarity. Published materials and website of the IIT libraries were also used to collect additional required information. As per the data received result has described below.

ANALYSIS AND DISCUSSION

Mechanism for Evaluating E-Resources

The e-resources subscribe by the library are sometimes not useful for the users. Libraries have to evaluate these e-resources about their usefulness time to time. Most of the e-resources available in the IIT libraries are accessible through INDEST-AICTE consortium. Beside it some e-resources are offered to the users by the library's own arrangement. Response regarding mechanism for evaluating the e-resources subscribes from INDEST-AICTE consortium and their type of mechanism used, obtained from the librarians of seven IITs is presented in Table 1. It is found that all the IIT libraries have an organised mechanism for evaluating the e-resources subscribing from INDEST-AICTE consortium. All subject libraries used usage statistics received from publishes for the said purpose. Through the statistics a library can get access about the popularity and use rate of particular journal or database. Although library of IIT-Madras received access log that is provided by the computer centre of the institute. While IIT-Roorkee gets user feedback

regularly that is the reliable source to evaluate the e-resources.

Table 1: Mechanism for evaluating e-resources subscribed.

Evaluation Mechanism	IIT-B	IIT-D	IIT-G	IIT-K	IIT-Kgp	IIT-M	IIT-R
Yes	✓	✓	✓	✓	✓	✓	✓
No	x	x	x	x	x	x	x
Type of Mechanism	Usage statistics received from publishers	Usage statistics received from publishers	Usage statistics received from publishers	Usage statistics received from publishers	Usage Statistics received from publishers	Usage Statistics received from publishers, and computer center provides the access log	Usage Statistics received from publishers & Users feedback

Purpose of Evaluation of E-resources

The in-charge of the IITs libraries were asked to indicate the purpose of evaluation of library E-resources. The responses received are depicted in the Table 2. Libraries of IIT-Bombay, IIT-Delhi, IIT-Kharagpur, IIT-Madras and IIT-Roorkee have executed E-resource evaluation process having same

objectives that viz. to find out the impact factor of e-journals and recognition of publisher/database. to discontinue un-useful journals, to strengthen the collection in particular field/discipline, to know the prominence of e-resources. Except IIT-Kharagpur and IIT-Roorkee remaining other three IITs also aimed to assess the quality of the journals for that evaluation.

Table 2: Purpose of Evaluation of E-resources

	IIT-B	IIT-D	IIT-G	IIT-K	IIT-Kgp	IIT-M	IIT-R
To find out the impact factor of e-journals/database	✓	✓	x	x	✓	✓	✓
To discontinue un-useful journals	✓	✓	x	x	✓	✓	✓
To assess the quality of the journals	✓	✓	x	x	x	✓	x
To strengthen the collection in particular field/discipline	✓	✓	x	x	✓	✓	✓
To know the prominence of e-resources	✓	✓	x	x	✓	✓	✓

Conveying Feedback to the INDEST-AICTE Consortium

Table 3 shows the response regarding the conveying users' feedback to the INDEST-AICTE consortium. It is clearly shown in the table that libraries of IIT-Bombay, IIT-Delhi, IIT-Guwahati, IIT-Kharagpur, IIT-Madras and IIT-Roorkee send the users response regarding usefulness of the e-resources to the INDEST-AICTE consortium frequently. However

IIT-Kanpur has not communicated of the users' feedback to the consortium. It is also pointed out that all the IIT librarians are the member of national steering committee of INDEST-AICTE consortium. Although librarian of IIT-Madras was the member of the committee but still chairman of the library is the member of national steering committee of INDEST-AICTE consortium.

Table 3 Conveying feedback to the INDEST-AICTE consortium.

Conveying Feedback	IIT-B	IIT-D	IIT-G	IIT-K	IIT-Kgp	IIT-M	IIT-R
Yes	✓	✓	✓	×	✓	✓	✓
No	×	×	×	✓	×	×	×
Membership of NSC	✓	✓	✓	✓	✓	Still Chair man	×

Problem Encountered in E-Collection Development

The Library subscribes to electronic resources in support of the educational needs of students, faculty and staff of the Institute. The electronic resources of IIT libraries are developed to fulfill the objectives of the institute. The e-collection of these libraries comprises of e-journals subscribes from the INDEST-AICTE consortium and through the own library arrangement, computerized databases, e-books, CDs/DVDs materials etc. These materials are very essential and useful to make

impressive library services in technological era. In order to evaluate effectiveness of library and its services, it is essential to find out the problems in e-collection development. E-collection development is a crucial job and requires knowledge and fully expertise. Table 4 present the problems faced by the IITs libraries during the e-collection development. Result shows that maximum problems encountered by IIT-Roorkee followed by IIT-Bombay and Madras. They faced almost same problems. It is clearly mentioned in the table 4 that IIT-

Delhi faced little bit problems in e-collection development followed by IIT-Kanpur and Kharagpur in compare to other IITs. It is also pointed out that all the libraries except IIT-Kharagpur and Delhi, faced two major problems i.e. lack

of proper bibliographical control of e-resources and increasing the cost of e-resources. It is very much essential to all the IITs libraries to short out these problems, so they can develop and enrich the e-collection for their users.

Table 4 Problems encountered in e-collection development.

Problems Encountered	IIT-B	IIT-D	IIT-G	IIT-K	IIT-Kgp	IIT-M	IIT-R
A.	✓	×	×	✓	×	✓	✓
B.	✓	×	✓	✓	×	✓	✓
C.	✓	×	✓	✓	✓	×	×
D.	✓	✓	✓	✓	×	✓	✓
E.	✓	×	✓	✓	×	✓	✓
F.	✓	×	✓	×	✓	✓	✓
G.	✓	×	✓	×	✓	×	✓
H.	✓	×	✓	✓	✓	✓	✓
I.	✓	×	×	✓	✓	✓	✓
J.	✓	✓	✓	×	✓	×	✓
K.	✓	×	✓	✓	×	×	✓
L.	×	×	×	×	×	✓	✓
M.	×	×	×	×	×	✓	✓
N.	×	×	✓	×	×	✓	×
O.	×	×	×	×	×	✓	✓
P.	✓	×	✓	×	×	×	×
Q.	✓	×	×	×	✓	✓	×
R.	×	×	×	×	✓	×	✓

- A. Lack of community analysis/user studies.
 B. Increasing different kind of demand of reading material by the users.
 C. Publication of information in various print and non-print formats.
 D. Lack of proper bibliographical control of e-resources.
 E. Non-availability of reliable selection tools for e-journals.
 F. Variations in funding for the purchase of reading materials.
 G. Shortage of funds for purchasing of e-resources.
 H. Increasing the cost of e-resources so library is unable to provide all resources.
 I. Shortage of professional staff/semi-professional staff.
 J. Lack of knowledge and skills among the staff for effective e-collection development.
 K. Lack of knowledge of information technology among the staff.
 L. Lack of faculty cooperation on the issue relating to selection of e-resources.
 M. Inadequate support to the library by the administrators of the institute.
 N. Lack of collection development policy for non-print reading material.
 O. Lack of collection evaluation programmes and policies.
 P. Insufficient infrastructure for collection development of electronic/digital/network resources.
 Q. Lack of policy for discontinuity of irrelevant and useless e-resources.
 R. Performance of the INDEST-AICTE Consortium is not up to the expectations of the user.

MAJOR FINDINGS

The following are the major findings of the present study.

- All IIT libraries used usage statistics received from publishes through which library can get access about the

popularity and use rate of particular journal or database.

- Most of the IIT libraries are conducts e-resources evaluation process with the same objectives viz. to find out the impact factor of e-journals/database, to discontinue un-useful journals, to strengthen the collection in particular field/discipline, to know the prominence of e-resources.
- All most all the IIT libraries send the users response regarding usefulness of the e-resources to the INDEST-AICTE consortium.
- Most of the IIT libraries faced same problems in e-collection development like lack of community analysis/user studies, increasing different kind of demand of reading material by the users, lack of proper bibliographical control of e-resources, non-availability of reliable selection tools for e-journals, variations in funding for the purchase of reading materials, increasing cost of e-resources, shortage of professional staff/semi-professional staff etc.

CONCLUSION

IIT libraries have been using E-Resources form in mid-1990s. IIT libraries have acquired access for their users to a large number of electronic resources in engineering,

sciences and technology. These resources have helped the students, faculty and research scholars in their academic and research pursuits. These libraries are valued by the users for their support in academic and research mission through user-focused services, highly skilled staff, and easy-to-use collections. However, these libraries need to invest more in order to move to the next level or modernization so that they retain their position of eminence. IIT libraries should have to conscious about e-collection development and their proper use by the users. They should have to overcome with the problem encountered in e-collection development to make the best use of the electronic journals to a maximum extent. The foremost purpose for evaluation of e-resources is to access the eminence of the e-collection and to identify the dead loss of e-resources and such e-resources might be confiscated from the collection. Based on cost, perceived need, usage, and the degree to which the electronic resource meets the selection criteria, the e-collection development committee will decide whether or not to acquire and if a decision to acquire is made, prioritize its purchase in relation to other electronic resources requested within budgetary constraints. A subscription to a product may be cancelled if; Usage statistics are

consistently low over a significant period of time, The product is no longer cost-effective, The content provided is no longer meeting the needs of IITs users, A competitive or better product becomes available, The vendor fails to hold up their end of the agreement and/or provides poor service, A product's price inflates such that it no longer is considered affordable, The product's content is found to duplicate content in another database. The IITs libraries keeps the interests of the user in mind and refrains from purchasing products where use restrictions would seriously impede research or be impossible to enforce.

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INTELLECTUAL PROPERTY RIGHTS AND DIGITAL RESOURCES

Salma*

Abstract

This paper deals with the IPR on digital resources. It is shown that the fast growing electronic medium entails increased chances of infringement of copyright what the copyright law provides for this digital environment. The Paper discusses duration of protection, issues related to fair use.

Keywords: IPR, Copyrights, Digital Resources, E-Resources, Copyright Act

1. INTELLECTUAL PROPERTY RIGHTS

Intellectual Property Rights (IPR) is a legal system consisting of Copyright, Patents, Designs and Trademark which are mechanisms to establish their ownership and to prevent illegal copying of intellectual creations.

New ideas and inventions, which keep on emerging in every conceivable field of science and technology, are the outcome of manipulation of human mental faculty. The Resulting outcome of human intelligence is known as intellectual property. It is therefore, essential to protect such Intellectual Property so that nobody else can enjoy with the other's efforts. Intellectual property protection is the key factor for the economic growth and advancement in the high technology sector. Intellectual Property Rights hold importance in almost all walks of life, i.e., in the field of agriculture, biotechnology, computer technology, sociology, philosophy and also in library & information science. The Intellectual Property Rights cover not only printed matter but also the

patents, industrial designs, trademarks, trade secrets, layout designing of integrated circuits and so on. The IPR is important not only at national but also at international level.

Intellectual Property Rights ensure the originators such a protection so that even a new design, logo, trademark can be protected for its misuse. Even a piece of art, literature, computer programme, biological wealth or cultural heritage can protect with the help of Intellectual Property Rights.

In law, Intellectual Property (IP) is an umbrella term for various legal entitlements which attach to certain types of information, ideas, or other intangibles in their expressed form. Intellectual property laws vary from jurisdiction to jurisdiction.

2. PURPOSE:

The Basic purpose of IPR is to guard the rights of an author for his work and simultaneously permit the general public to view his creativity. IPR law also puts time limits on the rights given to these authors so that a balance is maintained. Intellectual property, like any other form of property can become a material of

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trade, can be owned, sold as well as bought. This type of property is gradually becoming important for ensuring competition in a knowledge based economy.

The intellectual property rights were essentially recognized and accepted all over the world due to some very important reasons. Some of the reasons for accepting these rights are:-

- a. To provide incentive to the individual for new creations.
- b. Providing due recognition to the creators and inventors.
- c. Ensuring material reward for intellectual property.
- d. Ensuring the availability of the genuine and original products.

3. TYPES OF INTELLECTUAL PROPERTY:

IPR can be divided into following divisions:

(a.). Intellectual Property

1. Inventions
2. Trademarks
3. Industrial design
4. Geographical indications

(b). Copyright

1. Writings
2. Paintings
3. Musical works
4. Dramatics works
5. Audio-visual works
6. Sound Recordings
7. Photographic works
8. Drawings
9. Broadcast
10. Sculpture
11. Architectural works etc.

4. INTELLECTUAL PROPERTY:

In India, the Intellectual Property Rights (IPRs) of computer software is covered under the copyright law. Accordingly, the copyright of computer software is protected under the provisions of Indian Copyright Act 1957. Major changes to Indian copyright law were introduced in June 1994. This has made the Indian copyright law, one of the toughest in the world. The amendments to the copyright act in June 1994, clearly explains the rights of copyright holder, position on rentals of software, the rights of the user to make backup copies and the heavy punishment and fines on infringement of copyright of software.

5. COPYRIGHT:

In India, the first Copyright Act was passed in 1914. This was nothing but a copy of the U.K. Copyright Act 1911 with suitable modifications to make it applicable to the then British India. The next Act, which is the current statute, was the Copyright Act 1957 which adopted many of the principles and provisions contained in the U.K. Act of 1956, but which also introduces many provisions.

5.1. COPYRIGHT ACT 1957:

The act of 1957 besides consolidating and amending the law relating to copyright also introduced a number of changes and new provisions. The Act provides for the setting up of a copyright office under the control of Registrar of Copyright, for the purpose of registration of books and other works of art and for certain other functions. A body called copyright board was created under the Act, authorized to deal with certain

kinds of disputes pertaining to copyright. The orders passed by the Registrar of Copyrights Act of 1957 came into force on 21st January 1958.

5.2. FEATURES OF THE ACT 1957:

The followings are the main features of the Act of 1957:

1. Creation of a copyright office and a Copyright Board to facilitate registration of Copyright and to settle certain kinds of disputes arising under the Act and for compulsory licensing of Copyright.
2. Provision to determine the first ownership of Copyright in various categories of works.
3. Term of Copyright for different categories of works.
4. Provisions relating to performing right societies
5. Broadcasting rights.
6. International Copyright
7. Definition of infringement of copyright.
8. Author's special rights.
9. Civil and criminal remedies against infringement.
10. Remedies against groundless threat of legal proceedings.

6. OBJECT OF COPYRIGHT:

The object of copyright law is to encourage authors, composers and artists to create original works by rewarding them with the exclusive right for a limited period to reproduce the work for the benefit of the public. On the expiry of the term copyright the works belong to the public domain and anyone may reproduce term without permission.

7. DIGITAL RESOURCES:

The Digital resources are systems in which information is stored electronically and made accessible through electronic systems and computer networks. These resources include OPAC, CD-ROMs, Online-Databases, E-journals, E-books, internet resources etc. so, in the context the term means any electronic product that delivers collection of data in text, numerical, graphical or time based as a commercially available resources.. They have commercial aspect is in many ways. Because, it has the potential to be marketed there must be at the one end a supplier and at the other end a potential pool of consumer.

7.1. FEATURES OF DIGITAL RESOURCES:

Following are the features of digital resources:

1. **Multi-user access:** a networked product can provide multiple access point (offices, home, classrooms etc.) at multiple points in time, resources available 24 hours a day, 7 days a week.
2. **Speed:** digital resource is often seen as being a lot quicker to browse or search, to exact information to integrate that information into other material and to cross-search between diverse publications.
3. **Content:** digital resources can contain a vast amount of information but more importantly the material can consist of multimedia i.e. images audio and animation which could not be replicated in print.
4. **Re-use:** digital resources can be repackaged and reused in such

systems as virtual learning environments or resource.

5. **Management:** Digital resources can be managed effectively by appropriate software and their use can be tracked.
6. **Storage:** it is very cheap to store data with the reduction in the costs of computing hardware and it is preventable from being lost, stolen or damaged.
7. **Timeliness:** with the help of digital resources the required information can be searched in a short span of time. It provides information quickly that the traditional genre of information storage and retrieval systems.

7.2. ADVANTAGES OF DIGITAL RESOURCES: followings are the advantages of digital resources.

1. information access can be made without wasting any time;
2. desired information can be retrieved within few minutes at learning desk;
3. vast collection of information may be stored in a small place;
4. reproduction of engraved information in documentary forms and their longevity are secured;
5. accessing, manipulating, storing and distributing information what when and where they required;
6. resource sharing at desired level among the libraries and information centers;
7. coping with open mouth problem of space and budget etc. in libraries and information centers;
8. enabling to get information through its means in electronic

form or which form an individual requires;

9. providing need-based and retrospective services to the users;
10. enabling to introduce friendly users' services at anytime;
11. Automating system of library functioning enables one to locate required item easily and quickly.

7.3. TYPES OF DIGITAL RESOURCES:

The different types of digital resources are described as follows:

- E-Journals,
- E-books,
- Electronic database
- Internet resources,
- CD-Roms,
- Magnetic tape
- DVD
- E-Newspapers
- E-Thesis
- Blue Ray Disc

Many types of library material such as journals, books, patents, newspapers, standards, photographs, pictures, motion pictures or music are now available in electronic or digital form.

8. WHY NEED FOR DIGITIZATION:

Nowadays people are interested in accessing will have to be digitized. The reason is that digital searching will become so easy, inexpensive, fast and ubiquitous that users will not tolerate, or will not access, traditional materials. The cost of digitizing is not trivial, so it makes little sense for any work to be digitized. Libraries and archives are society's Primary information providers and were early users of the new digital technology with respect to cataloguing and processing management and later for providing

information on their collections to the www community. Besides preservation of the resources libraries are turned to creation digital surrogates from their existing resources. The decision to digitize may be in order to:

1. To increase access: this is the most obvious and primary reason.
2. To improve services to an expanding user's group by providing enhanced access to the institution's resources with respect to education, long life learning.
3. To reduce the handling and use of fragile or heavily used original material and create a "back up" copy for endangered material such as brittle books or documents.
4. To give the institution opportunities for the development of its technical infrastructure and staff skill capacity. From a desire to develop collaborative resources, sharing partnerships with other institutions and increase worldwide access.
5. To seek partnerships with other institutions for economic advantages.

9. DIGITAL SOURCE OF INFORMATION:

Some online digital resources of information are: abstracts, Indexes, dictionaries, Encyclopedias, Biographies, guides to sources, bibliographies, directories, gazetteers, handbooks and yearbooks. These information sources published in electronic forms and can be subscribed online.

10. PRESERVATION:

Digital preservation means taking steps to ensure the longevity of the electronic documents in terms of the following:

1. Virus Detection and Protection
2. Electrical protection
3. Back up
4. Storage medium
5. Index to the data
6. Link to other data
7. Metadata
8. Software

10.1. STANDARDS FOR DIGITAL PRESERVATION:

Standards are essential for preservation of digital documents/information over time; standards facilitate communication and acceptance and are useful to delay the ageing process. These are following types of standards:

- Standards for Architecture (*ISO/DIS 15489, AS 4390, DoD 5015.2-STD, OAIS*)
- Standards for Document format (*PDF, XML*)
- Standards for preservation access (*Dublin Core, MARC, ISAD, Z39.50*)
- Standards for interoperability (*ODMA, DMA, WebDAV*)

11. PROBLEMS IN DIGITAL RESOURCES:

Digital resources also pose human, social and technological problems, such as discomfiture in reading on the screen, problems in internet access and speed, poor infrastructure, lack of sufficient skills to use the digital resources, and perceptual change resulting from right to use rather than physical possession, etc. Digital technology has created very serious problems to the

copyrighted material on one hand and provided many opportunities for its exploitation on the other.

12. APPLICATION OF IPR/COPYRIGHT IN THE DIGITAL ENVIRONMENT:

All things are smoothly running in the printed world, but the application of information technology in printed world, has created the problems for the writers to protect their work. The physical shape of books journals, periodicals etc. has changed to digital form in CD, DVD, etc. in the age of Internet any paper can be distributed or duplicated speedily to the users as the law of copyright is permits to downloaded materials. To protect the individual efforts and to allow benefit to the author, USA has enacted copyright law where the works of the author does meet following three requirements.

1. the work must be original and not copied from other's work
2. The work must be in tangible form that is either downer record on tape, videotaped disk CD and so on.
3. The work must be more than just an idea is not copyrightable although a particular expression of idea.

13. THE ROLE OF ORGANIZATIONS OF COPYRIGHT IN DIGITAL ENVIRONMENT:

The Fast diffusion of digital technology and the global reach of the internet have made copyright on only a national issue, but also an international issue. Because of the

international scope of the internet, copyright laws have consequences that go beyond national borders. Within this global context there are many national variations due to differences in copyright laws and practices, traditional cultural attitudes towards copyright and national interest. Tow multinational organizations are involved in the international copyright regime, World Intellectual Property Organization (WIPO) and World Trade Organization (WTO). WIPO can be more active in certain fields. eg. In Digital Right Management (DRM), WIPO might undertake to collect data on or otherwise review the extent to which DRMs are being deployed and the effect of technological measures on legitimate access to copyright works. TRIPs (Trade Related Intellectual Properties) Agreement lays down minimum standards for the protection of intellectual property rights as well as the procedures and remedies for their enforcement.

14. FUTURE OF COPYRIGHT LAW:

The Challenge to copyright prescribed by the digital and on line environment of the information society with the possibility of works protected by copyright being recorded, stored and made available on demand in digital form all over the world through electronic communication networks such as the internet and with the threat of unlimited perfect quality copies being made of them are not therefore a matter for national or international laws.

Digital technologies will continue to evolve, and pose more

challenges to the copyright regime. The viable solution the “digital dilemma” is for the copyright regime to adopt itself to the technological progress and conceive proper forms and structures for copyright protection. Digital libraries contain digital information in electron format on a large scale. Copyright protected an author against piracy of his work. In India licence of copyright of a work must be carried out in written statement. In digital libraries information is easily accessible through internet, so it is easily copied by users. Use of some water marking software’s like Digimare and SysCop etc are helpful to decrease copying. WIPO is an agency who takes responsibility to promote intellectual property right in the whole world.

IPRs are essential to human creativity, by giving creators incentives in the form of recognition and faire economic rewards. Under this system of rights, creators are assured that their works can be disseminated without fear of unauthorized copying or piracy. IPRs in digital environment are acquiring an inseparable status and there is an urgent need to study the laws related to printing and non printing form at different levels. This indicates that IPRs in the digital environment are of major concern and we have to emphasize more on the practicality of there to get additional benefit and prosper.

15. FAIR USE IN DIGITAL ENVIRONMENT:

In copyright “copying” is an exclusive right as its primary objective is to promote the progress of

knowledge. Thus copyright law balances the intellectual property interest of authors/publishers/copyright owners with society’s need for the free exchange of knowledge. Fair use is the permissible use of copyrighted works for the purpose and permits partial or limited reproduction. This depends on:

- Purpose and character of use;
- Nature of the work;
- Amount and substantiality of the portion used in relation to the work as a whole;
- Effect of use upon potential market.

CONCLUSION:

Law can not keep pace with technology. All efforts need to be made to amend copyright laws to cover technological impact on the associated legal issues. Law makers, judiciary, law enforcement agencies, scientists, technologists, users and the library professionals etc. should join hands together of copyright and make safeguard for the interest of the users. Protection of IPR’s through copyright laws is becoming inadequate due to advent and growth of electronic media of communication in the form of IT products. Libraries are increasingly using IT products for storage and retrieval of information, by leasing the use of information, libraries are at the risk of infringing the copyright. Therefore, there is need to establish a national centre/clearing house for supply of documents to the end users and there is need to check the piracy of computer software and other IT product.

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Better ways to Search Information on Web Platform

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Abstract

The main aim of the paper to describe the better way to search information on web platform. The search engine processes the queries of the searcher and make suitable matches with the tags or contents of its database and rank the documents in order of priorities before producing to the user. On each day basis experts invest their mind in research to innovate new techniques and methodologies to incorporate among the features of the search engines and make the search process of the information searcher easier.

Introduction

The World Wide Web is the collection of globally distributed text and multimedia documents and files and other network services linked in such a way as to create an immense electronic library from which information can be retrieved quickly by intuitive searches. "The Web was developed to be a pool of human knowledge, which would allow collaborators in remote sites to share their ideas and all aspects of a common project." (Wardrip-Fruin & Nick, 2003). The Web links represent the application of hypertext technology and a graphical interface to the Internet to retrieve information that is contained in specially formatted documents that may reside in the same computer or be distributed across many computers around the world. The three main elements of Web are (i) the Hypertext Markup Language (HTML), to write contents, (ii) the Hyper Text Transfer Protocol (HTTP) defines a

set of standards for transmitting Web pages across the Internet, (iii) the Universal Resource Locator (URL) is a standardized naming convention for identifying a Web document or file, in a sense the address of a link. The combined output is called the Web because it is made up of many sites, all linked together, allowing users to travel from one site to the next by clicking on a hyperlink.

Web pages, or Web sites, are really Internet sites that all use the same techniques and HTML tags to create multimedia documents with hypertext links. Each Web page can contain many screens or printed pages of text, graphics, audio, and even video, and the starting point for any Web site is called its home page. Although each page is an Internet site, it must be accessed via a special program called a Web browser, which can translate the HTML into the graphical images, text, and hypertext links intended by the creator of the page. The common Internet users not having any knowledge of web complexities

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and search techniques can use Search engine method to search and retrieve information from web. The search engine processes the queries of the searcher and make suitable matches with the tags or contents of its database and rank the documents in order of priorities before producing to the user. On each day basis experts invest their mind in research to innovate new techniques and methodologies to incorporate among the features of the search engines and make the search process of the information searcher easier.

Difficulties in Information Searching

World Wide Web is the biggest deposit of information interlinking the digital hypertext documents all across the Internet. The process of retrieval of information from web is a complex matter but everybody's affaire. Firstly, a Web search engine is an IR system, which is used to locate the Web pages relevant to user queries. Existing search engines on the Web have incorporated a number of techniques to assist in both the recall and accuracy (precision) of information. The relevance between the user's query and the retrieval results is often ambiguous. That is, while a lot of irrelevant information may be retrieved only a small amount of

relevant information tends to be retrieved.

Secondly, the explosive growth of information on the World Wide Web possesses challenge for our local users especially in locating the most relevant and useful local-published information. Normally local important information are lost within the ocean of information available on web and also beyond the capacity of a search engine to cover all. Today, our local users are lucky enough to be given the opportunity to choose from thousands of local search engines available publicly on the Web. Thirdly, query formulation guided by the norms of the search tools could not bring effective search results for the information searcher. To avoid forcing searchers to memorize Boolean or other query languages, some search engine systems allow them to type in a question, and use that as the query: this is known as "Natural Language Processing" (NLP). The simplest processing just removes stop words and uses a vector search or other statistical approach. Some sophisticated search engine systems also try to extract concepts using linguistic analysis, and match those against concepts extracted by the indexer (Search tools, 2010). For any modern search engine the NLP has been an inseparable entity.

Genesis of Web Search Engines

The Internet search engines were in use before the emergence and growth of the Web. However, the web search engines as we know them today began to appear in 1994 when the number of HTTP resources increased (Asadi & Jamali, 2004). The first pre-Web search engine was Archie, which allowed keyword searches of a database of names of files available via FTP (Poulter, 1997). The first robotic search engine of the Web was Wandex, which was developed by Matthew Gray in 1993 (Wall, 2004). Since the appearance and exponential growth of the Web, hundreds of modern search engines with different features have appeared.

There are three generations involved in the evolution of search engines (Search engine types, 2008). The first generation search engines, which cover from the year 1995 to 1997, used only "on page", text data language. Excite, AltaVista, Lycos are from the first generation search engines. The second generation search engines used off page, web-specific data. This includes link or connectivity analysis, click-through data (what results people click on) and anchor-text (how people refer to this page). This type of engines was made popular by Google from the year

1998 until today. In third generation, the modern search engines are concerned with answering the question "the need behind the query". This involves semantic analysis, and helping the user by focusing on the user need, rather than on query. This type of engine also is an integration of search and text analysis.

Features of Search Engines

As it is understood that the Search Engines are the information retrieval tools, but with certain unique features that were not in traditional information retrieval systems. The incredible developments in Web searching, resources and services (Asadi & Jamali, 2004) has become a motivation for many studies and for companies to invest on developing new search engines or adding new features and abilities to their search engines. Ma (2004) from Asian Microsoft Research Centre reported some new features of the next generation of search engines in WISE-04. Deep Web with structured information is a potential resource that search companies are trying to capture. Meanwhile, researchers have focused on Web page structure to increase the quality of search. Microsoft has started a big competition on Web searching through working on Web page blocks, the Deep Web and mobile

search. MSN new ranking model will be based on object-level ranking rather than document-level. Day by day the high level of complex mathematical formulas are being adopted in the internal search processes of the search engines in order to make them modern and easy searcher for the web searcher (Search Process, 2010).

The newly added information retrieval features (techniques, strategies, formulas, etc.) of the existing or future search engines are:

Federated Search:- also known as parallel search, metasearch or broadcast search, it aggregates multiple channels of information into a single searchable point. Federated search engines are different from metasearch engines. Metasearch engines services for users are free while federated search engines are sold to libraries and other interested information service providers. Federated search mostly covers subscription based databases that are usually a part of Invisible Web and ignored by Web-oriented metasearch engines. Usually there is no overlap between databases covered by federated search engines. Federated searching has several advantages for users. It reduces the time that is needed for searching several databases and also users do not need to know how to search through different interfaces (Fryer, 2004). One of the

important reasons of the growing interest in federated searching is the complexity of the online materials environment such as the increasing number of electronic journals and online full-text databases. Webster (2004) maintains that although federated searching tools offer some real immediate advantages today, they cannot overcome the underlying problem of growing complexity and lack of uniformity. We need an open interoperable and uniform e-content environment to provide fully the interconnected assessable environment that librarians are seeking from metasearching. One of the disadvantages of federated search engines is that they cannot be used for sophisticated search commands and queries, and are limited to basic Boolean search.

Deep Web Search:- Current search engines can only crawl and capture a small part of the Web, which is called the "visible" or "indexable" Web. A huge amount of scientific and other valuable information is behind closed doors. It is believed that the size of invisible or deep Web is several times bigger than the size of the surface Web (Wright, 2007). Different databases, library catalogues, digital books and journals, patents, research reports and governmental archives are examples of resources that usually cannot be crawled and indexed by

current search engines. Web content providers are moving toward Semantic Web by applying technologies such as XML and RDF (Resource Description Framework) in order to create more structured Web resources. Modern search engines are trying to find suitable methods for penetrating the database barriers. BrightPlanet's "differencing" algorithm is designed to transfer queries across multiple Deep Web resources at once, aggregating the results and letting users compare changes to those results over time. Google, MSN and many other popular search engines are competing to find solution for the invisible Web.

Page Structure Analysis:-

The first search engines concentrated on Web page contents. AltaVista and other old search engines were made based on indexing the content of Web pages. They built huge centralized indices and this is still a part of every popular search engine. However, it was clear that the contents of a Web page could not be sufficient for capturing the huge amount of information. In 1996-1997 Google was designed based on a novel idea that the link structure of the Web is an important resource to improve the results of search engines. Backlinks were used based on the Hyperlink-Induced Topic Search (HITS) algorithm to crawl billions of Web pages. Google not only

used this approach to capture the biggest amount of Web pages but also established PageRank - the ranking system that improved the search results (Brin & Page, 1998). After content-based indexing and link analysis the new area of study is page and layout structures. HTML and XML are important in this approach. It is thought that Web page layout is a good resource for improving search results. For example, the value of information presented in < heading > tags can be more than information in < paragraph > tags. We can imagine also that a link in the middle of Web page is more important than a link in footnote. Web Graph algorithms such as HITS might be implemented to a sub-section of Web pages to improve search result ranking models. The automatic thesaurus construction method is a page structure method, which extracts term relationships from the link structure of Websites. It is able to identify new terms and reflect the latest relationship between terms as the Web evolves. Experimental results have shown that the constructed thesaurus, when applied to query expansion, outperforms traditional association thesaurus.

Structured Data:-

The World Wide Web is considered a huge collection of unstructured data presented in billions of Web pages. As we already mentioned,

the amazing size and valuable resources of the deep Web have affected the industry of search engines and the next generation of search engines are supposed to be able to investigate deep Web information. As a part of both surface and deep Web, structured data resources are very important and valuable. In many cases, data is stored in tables and separated files. The concept of structured searching is different from the way search engines currently operate. Most of search engines just save a copy of Web pages in their repository and then make several indexes from the content of these pages. Most documents available on the Web are unstructured resources. So, search engines can just judge them based on the keyword occurrence. Such an engine would rank words based on their location in a document, and their relation to each other, rather than just the number of times they appear. Traditional information retrieval and database management techniques have been used to extract data from different tables and resources and combine them to respond users' queries. Current search engines cannot resolve this problem efficiently, but in the future an intelligent search engine will be able to distinguish different structured resources and combine their data to find a high quality response for a complicated query.

Recommending Group

Ranking:- While many search engines are able to crawl and index billions of Web pages, sorting the results of each query is still an issue. Page ranking algorithms have been utilized to present a better ranked result. The idea is simple: more relevant pages must take a higher rank. Basic ranking algorithms are based on the occurrence rate of index terms in each page. Simply, if the search term is mathematics then a page that has the word mathematics 20 times must be ranked before a page, which has mathematics 10 times. As we already mentioned, this alone is not a sufficient way; recently link information and page structure information have been used to improve rank quality. These methods are automatic and are done by machines. However, it is believed that the best judgment about the importance and quality of Web pages is acquired when they are reviewed and recommended by human experts. Discussion thread recommendation or peer reviews are expected to be used by search engines to improve their results. In the future, search results will be ranked not only based on the automatic ranking algorithms but also by using the ideas of scholars and scientific recommending groups.

Mobile Search:- the number of people who have a cell phone

seems to be more than the number of people who have a PC. Also many other mobile technologies such as GPS devices are used widely. Search engine companies have focused on the big market of mobile phones and wireless telecommunication devices. Now everyone is accessing to the Web information and services through his/her wireless phone without necessarily having a computer. Accordingly, Yahoo has developed its mobile Web search system and mobile phone users can have access to Yahoo Local, Image and Web search, as well as quick links to stocks, sports scores and weather. The platform also includes a modified Yahoo Instant Messaging client and Yahoo Mobile Games.

Google search features:-

Google has developed some remarkable search features to facilitate the information searchers in web (Search features, 2009):

PageRank Technology - In order to increase the quality of search, Google made an innovative ranking system for the entire Web. PageRank is a technology that scores web pages by how "important" they are in relation to other web pages. PageRank used the citation graph of the Web and Google introduced link analysis in the search engine systems (Brin, & Page, 1998). In the past years, Google has received wide press recognition and praise for the

quality relevant results that they serve to web surfers. One of the major reasons for this is success is due to their PageRank Technology. Another major reason is that Google does not over-populate, or flood, their search results pages with two or three third-party databases like various other popular search engines. In order to accomplish this Google combines PageRank with sophisticated text-matching techniques to find pages that are both important and relevant to the search.

- i. **Keyword proximity** - Google uses keyword proximity information to increase relevance a great deal. When Google index web pages, each document is converted into a set of word occurrences called hits. The hits record the word, position in document, an approximation of font size, and capitalization. Google considers each hit to be one of several different types (title, anchor, URL, plain text large font, plain text small font, ...), each of which has its own type-weight. Hits occurring close together in a document are weighted higher than hits occurring far apart. The hits from the multiple hit lists are matched up so that nearby hits are matched together. For every matched set of hits, proximity is computed. The

proximity is based on how far apart the hits are in the document. Counts are computed not only for every type of hit but for every type and proximity. Count-weights increase linearly with counts at first but quickly taper off so that more than a certain count will not help.

- ii. **Anchor text** - Google uses anchor text mostly because anchor text often provide more accurate descriptions of web pages than the pages themselves. Anchor text provides a lot of information for making relevance judgments and quality filtering. The use of link text as a description of what the link points to helps the search engine return relevant (and to some degree high quality) results.
- iii. **Search syntax** - Google's search engine normally accepts queries as a simple text, and breaks up the user's text into a sequence of search terms, which will usually be words that are to occur in the results, but may also be phrases, delimited by quotations marks ("), qualified terms, with a prefix such as "+", "-", or one of several advanced operators, such as "site:".
- iv. **Special features** - Besides the main search-engine feature of

searching for text, Google Search has more than 22 "special features" (activated by entering any of dozens of trigger words) when searching : weather, stock quotes, time, sports scores, unit conversion, currency conversion, dictionary lookup, maps, etc.

Search techniques

Search engines such as Google, HotBot, Altavista, Lycos and Infoseek are representative of keyword search engines and employ a range of alternative search strategies. For instance, the Yahoo search engine uses subject search but Excite is a concept based search engine. Currently, information retrieval engines on the Web incorporate a variety of techniques to assist in both precision and recall. The techniques and features (Cho & Richards, 2007) of these search engines are summarised as follows:

– Defaults:

- * Default AND: HotBot, Google, MSN Search, Teoma, WiseNut
- * Default OR: Gigablast
- * Default Phrase Search: AltaVista Basic

– Boolean Capabilities and Constraints:

- * AND, OR, Nesting: AltaVista, Gigablast, Hot-Bot, MSN Search
- * NOT: HotBot, MSN Search
- * AND NOT: AltaVista, Gigablast

- * Operators must be in upper case:
AltaVista Simple, Gigablast, HotBot, MSN
- * OR Only: Google, Teoma [Both must be OR in uppercase]
- * Implied Boolean (+,-): AltaVista Simple, Gigablast
- * Dash - for NOT: AltaVista Simple, HotBot, Gigablast, Google, MSN Search, Lycos, Teoma,
 - Proximity:
- * Phrase Search: Gigablast, HotBot, Lycos, MSN, Search, Teoma, WiseNut
- * Near: AltaVista
- * Within: AltaVista Advanced
- * Before: AltaVista Advanced
- * Before Near: AltaVista Advanced
- * After: AltaVista Advanced
 - Truncation & Stemming:
- * Truncation: AltaVista
- * Represent Single Word Within Phrase: Alta-Vista, Google
- * Automatic Truncation: Yahoo
- * Word Stemming: MSN Search
- * Beginning Truncation: None
 - Case Sensitivity:
- * Yes: AltaVista Advanced, AltaVista Simple if term is in quotes
- * No: AltaVista Simple (unless in quotes), Gigablast, Google, Lycos, Teoma, WiseNut
- * Unusual Mixed Case Only: HotBot, MSN Search
 - Field Searching:
- * Title: AltaVista, Gigablast, HotBot, Lycos, MSN Search
- * Intitle: Google, Teoma
- * Allintitle: Google
- * URL: AltaVista, Gigablast, Lycos Advanced
- * Allinurl: Google
- * Link: AltaVista, Google, Gigablast, Lycos Advanced, MSN Search
- * Host: AltaVista
- * IP: Gigablast
- * Domain: Gigablast, Google, Teoma
- * Anchor: AltaVista
- * Image: AltaVista
- * Related: Google
- * Others: AltaVista, Gigablast, Google, HotBot, MSN Search
 - Limits:
- * Date (User Specified): AltaVista Advanced, HotBot, Teoma
- * Date (Specific Choices): Google, HotBot, MSN Search, Teoma
- * Language: AltaVista, Google, HotBot, Lycos, MSN Search, Teoma, WiseNut
- * Domain: Gigablast, Google, HotBot, MSN Search, Lycos, Teoma
- * Containing a Media Type: MSNSearch, HotBot
- * Document Directory Depth: MSN Search
- * Page Depth: Gone. Formerly at HotBot
 - File Types:
- * PDF: AltaVista, Gigablast, Google, MSN Search, HotBot (Inktomi)
- * MS Words (.doc): Gigablast, Google, MSN Search, HotBot (Inktomi)

- * PowerPoint (.ppt): Gigablast, Google, MSN Search, HotBot (Inktomi)
- * Excel (.xls): Gigablast, Google, MSN Search, HotBot (Inktomi)
- * PostScript (.ps): Gigablast, Google
- * WordPerfect (.wpd): Google
 - Stop Words:
 - * No StopWords (All words searched): AltaVista Advanced, Google (if + used or in phrase), Gigablast, Lycos, Teoma (if + used)
 - * Common Words not Searched (Stop Words): HotBot, Google, (if + not used or not in a phrase), MSN Search, Lycos, Teoma (if + not used or not in a phrase), WiseNut (if + not used)
 - * Stop Words Only If Searched Alone: HotBot, MSN Search
 - * Stop Words Searchable with '+': Google, Thoma, WiseNut
 - Sorting:
 - * Sort by Relevance: All Search Engine
 - * Sort by Data: Gigablast (Used to, no longer available as of October 2003)
 - * Clustering by Site: Google, Gigablast, HotBot, AltaVista, Teoma, WiseNut Related Works

Conclusion

The search engines are continuously striving to bring innovations in the retrieval systems to mine information from the web and resulting better output. The modern search engines are becoming more modern day-by-

day incorporating some new tools, techniques, formulas, and systems in their search processes and simultaneously discarding the outdated features. The more the web is filled with new complex type of documents the more searching features are innovated with the search engines system of materials retrieval from Web. Despite continuous research on search methods, the web world is so dynamic and complex that, neither single, nor combinedly existing search engines could have a complete control over the entire web. Whatever complex may be the internal structure of search engines the end users being facilitated with easy and sophisticated search methods to get materials from web, and it will continue.

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Use of Open Source Software for content management and Development of Library Automation Systems in India

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Abstract:

This paper presents information about different Open Source Software for development of library automation in India. Automation is the general term that is used to replace manual activities in the library. In this technological era there are many open source software for automation of library. This paper highlights major points of different kind of open source software like Koha, Dspace, Greenstone, Newgenlib and others which are using in the different reputed library.

Keyword/subject headings: Open source software, Digitization of Library, Information Technology, OSS, Open Source Software movement, Library automation, Library Technology

1. Introduction:

With the rapid growth of literature and its service has caused the necessity of computer application in libraries. The work in libraries includes acquisition, analysis, storage and retrieval of information. The increasing work load has forced the libraries to adopt a recent technology for effective and quick service. Automation can be applied in routine operations of libraries specially in the area of acquisition, circulation, serial control, cataloguing etc. Although the beginning of such efforts has been from the early decade of seventy. Computer is the main tool for achieving automation in libraries. The computer has increased the speed of access to both retrospective and current scientific and technological data. Secondly it has increased efficiency in retrieval and accuracy of information.

The promise of open source is better quality, higher reliability, more flexibility and support open standards. Open Source Software is invented in order to provide software to users with more rights than proprietary (or commercial) software does that everyone is allowed to use, copy, or distribute, unmodified or with modifications, for free or for money, but always together with the source code.

Today, there are so many open source software such as integrated library management, digital library, content management, databases and e-learning etc., under the various free and open source foundations, for which the source code is freely and publicly available, through the specific licensing agreements vary as to what one is allowed to do with that code.

2. Why Open Source software?

Libraries presently are confronted with issues which cut across; geometrically progressive information growth and shrinking space, change in users' information behaviour, means of organizing the flood of information, Cost hike of printed reading materials and need for resource sharing. The need to overcome these issues and also make the library more efficient and effective in their service delivery, makes automation of library services imperative. The traditional method of managing the library is no longer efficient as the use of computers and other technologies is conventionally adopted to enhance services provided by the library. Library automation enhances the speed, productivity, adequacy and efficiency of the library staff. Time and the manpower that could be expended in

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performing some technical and readers services routine and clerical tasks such as filing, sorting, duplicating, etc, are conserved when the library is automated. According to Aswal (2006), library automation is pivotal to library effectiveness because it increases staff productivity, enhances housekeeping

- Improves access to remote users
- Facilitates wider dissemination of information products and services
- Facilitates resource sharing among libraries
- Enables rapid communication with other libraries
- Improves the management of physical and financial resources
- Facilitates generation of reports for better decision making and effective management of the library.

An automated library will help its users with quick, accurate and prompt services. Automating the information available in the library benefits both the staff and users. Generally, automation of library services is relevant as a result of the following:

- a. **Resource-sharing among libraries (Union catalogues):**
- b. **Improves access:**
- c. **Improves the quality and effectiveness of services to remote users:**
- d. **Saves professional manpower time:**
- e. **Facilitates wider dissemination of information products and services:**

3. Definitions:

Open source software is computer software whose source code is available under a license (or arrangement such as the public domain) that permits users to study, change, and improve the software, and to redistribute it in modified or unmodified form.

operations, enables advancement in technology, and enables access to external information through the Internet. Sudhamani (2010) supporting the above enumerated the following as relevance of library automation. It improves the quality, speed and effectiveness of service.

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It is often developed in a public, collaborative manner. It is the most prominent example of open source development and often compared to user generated content.

4. Reasons to Use Open Source

Software:

- (a) It promotes creative development.
- (b) The price (free) makes it easier to change your mind when the software doesn't live up to its expectations.
- (c) Can easily modify your software to suit patron's needs and your needs.
- (d) Those who can't afford proprietary software can download open source programs for free.
- (e) Money saved can be used to purchase other needed materials.
- (f) Little to no upgrade costs.
- (g) No more grueling over software that doesn't meet your standards -- create it yourself based off of a close pre-existing piece of software.
- (h) Little to no viruses.

5. Different Open Source Software:

Some popular open source software packages for library management system are as followed.

Open Source Software for library and Information Centres:

Software's Name	URL	Supported Platforms	Dependency
DSpace	http://www.dspace.org/	Independent	Apache, Tomcat, Postgre SQL, Java
KOHA	http://www.koha.org/	Windows, Linux and Unix	Apache, Perl, MySQL (or RDBMS)
PhPMyLibrary	http://sourceforge.net/projects/phpmylibrary	Independent	Apache, PHP, MYSQL, Python
OpenBiblio	http://obiblio.sourceforge.net	Independent	Apache, PHP, MYSQL
GLIBMS	http://sourceforge.net/projects/glibs	Linux and Unix	Apache, PHP, Perl Postgre SQL
Avanti	http://home.earthlink.net	Independent	Java Virtual Machine
PhpMyBibli	http://phpmybibli.sourceforge.net/	Independent	Apache, PHP, MYSQL
PostgreSQL	http://www.postgresql.org/	Linux, Unix, Windows	Perl, Phthon, Tcl/Tk, JDK/ Ant, Flex,Bison
MARC/ Perl	http://www.cpan.org/modules/by-module/MARC	Linux, Unix, Windows	Perl
NewGenlib	http://www.verussolutions.biz/web/	Independent	Java, Postgres SQL
Greenstone	http://www.greenstone.org/	Unix, Windows, Linux, MacOS	Apache, Perl, GDMS
iVia	http://informine.ucr.edu/iVia/	Linux	Apache, MySQL, Berkeley DB
Fedora	http://www.fedora.info/	Independent	Java, MySQL, Oracle, JDBC
E-prints	http://eprints.org/	Linux, Unix	Apache, Perl, MYSQL
CDSWare	http://cdsware.cern.ch/	Linux, Unix	Apache, PHP, MYSQL,Python, WML
Harvest	http://harvest.sourceforge.net/	Linux, Unix, Windows	Apache, Perl, GDMS, Bison, Flex

7. Merits of Open Source Software:

The changing information environment dominated by internet technologies has given libraries new choices in meeting the information needs of their users. Open source has impact not just for developers and in-house IT managers, but also potentially for every person throughout the value chain of an organisation from management to knowledge workers to suppliers,

customers, and partners. By and large, the effects of open source are advantageous with benefits ranging from lower costs to simplified management to superior software. These advantages include the following:

1. **Lower Software Costs**—Open source solutions generally require no licensing fees. The logical extension is no maintenance fees. The only expenditures are for media,

documentation, and support, if required.

2. Simplified License Management—Obtain the software once and install it as many times and in as many locations as you need. There's no need to count, track, or monitor for license compliance.

3. Lower Hardware Costs—In general, Linux and open source solutions are elegantly compact and portable, and as a result require less hardware power to accomplish the same tasks as on conventional servers (Windows, Solaris) or workstations. The result is you can get by with less expensive or older hardware.

4. Scaling/Consolidation Potential—Again, Linux and open source applications and services can often scale considerably. Multiple options for load balancing, clustering, and open source applications, such as database and email, give organizations the ability to scale up for new growth or consolidate to do more with less.

5. Sufficient Support—Support is available for open source—often superior to proprietary solutions. First, open source support is freely available and accessible through the online community via the Internet. And second, many tech companies (not the least of which is Novell) are now supporting open source with free online and multiple levels of paid support. All open source solutions distributed by Novell are included in support and maintenance contracts.

6. Integrated Management—Specific open source technologies such as CIM (Common Information

Model) and WBEM (Web Based Enterprise Management) provide the capability to integrate or consolidate server, service, application, and workstation management for powerful administration.

7. Quality Software—Evidence and research indicate that open source software is good stuff. The peer review process and community standards, plus the fact that source code is out there for the world to see, tend to drive excellence in design and efficiency in coding.

8. Escape Vendor Lock-in—Frustration with vendor lock-in is a reality for all IT managers. In addition to on-going license fees, there is lack of portability and the inability to customize software to meet specific needs. Open source exists as a declaration of freedom of choice.

8. Demerits of Open Source Software:

Taking a comprehensive and critical view of open source should raise some questions as well, regarding drawbacks. There have been several criticisms by detractors of open source, but most of these can be mitigated or relegated to myth status. Here's a short list of possible concerns:

1. Open Source isn't Really Free—"Free, as in a free puppy" is the adage meaning no up-front costs, but plenty (often unseen or unanticipated) afterward. Implementation, administration, and support costs—particularly with Novell solutions—can be minimized and the reality is that there are *still no licensing fees*.

2. There's no Service and Support—For some companies, support is mandatory. More on this later, but open source support equal to that available for proprietary software is available for the same price or less.

3. Development Resources are Scarce—Linux and open source resources are actually abundant—the developers can use the same tools, languages, and code management processes. In reality, the universe of developers is the largest of any segment. And, with the evolution of Mono (the open source equivalent to .NET), all of those Windows/.NET developers become an added development resource for Linux.

4. Open Source is not Secure—It might seem to be a simple deduction of logic to think that the code is available, so anyone can figure out how to break it. That's not quite true with the momentum of the community (especially Linux). Also, the modularity required for distributed development of Linux and open source also contributes to security with tight, function-specific, and isolated code segments.

5. Training is not available—This used to be true, but not anymore. Available Linux training, for example, has ballooned with certification courses coming from every major training vendor. Novell has created multiple levels of Linux certification and integrated training programs. Check your local bookstore and you'll see a whole section on Linux and open source.

6. All Open Source is a Work-in-progress—True for some, but not for all. The key components like Linux, Apache, MySQL, and Tomcat are dominating prime-time Internet with stable, secure, and production-quality solutions. Some open source offerings are maturing, but they are still workable, and for the companies that use them (with access to source code), the software is good enough.

9. Movement of Open Source Software in India:

Earlier, adoption rate of Open Source Software in India is comparatively slower than other developed countries due to lack awareness among library professionals. Compared with other Open Source Software, KOHA is more popular in India due to its active users community in India. Many esteemed library automation projects in India adopted KOHA due to its capability to handle Indian languages. Delhi Public Library began to use KOHA in 2007. The library collection consists of approx. 15 lakh books. In the initial stages a significant portion of records migrated from CDS/ISIS database to KOHA.

Granthalaya (www.grathalaya.org) is another prestigious automation project using KOHA. This project envisions a union catalogue of public libraries in Konkan region of Maharashtra.

Installation of Open Source Software was difficulty for library professionals because of its complex installation procedure. Many learning and installation aids for Open Source Software are now

available for the help of library professionals. They make librarians to install Open Source Software in the library without the help of a Linux expert. Besides, lots of misunderstandings exist among library professionals regarding the use and maintenance regarding Open Source Software. A very sad situation is that library professional organisations and library science schools in India still follow head in sand approach towards giving awareness and training in Open Source Software.

10. Conclusion:

Impact of open source movement made positive effects in libraries in India. Library professionals are recognizing the impact of open source softwares and began to adopt in library automation purposes. Open source culture empowers libraries to try innovative technologies in their working environment. In addition, libraries have started to develop their own tools such as meta search and social functionality tools to integrate with open source. This practice helps them to develop solutions to solve their technology related problems within the walls of libraries. It is necessary to make awareness among library professionals about the advantages of open source software.

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Challenges in Data Migration and Modernisation of High Court Libraries with special reference to Open Source Software KOHA.

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Abstract:

Libraries of Indian judiciary are not covered under any consortium or agency like INFLIBNET, CSIRNET, INDEST, therefore collective, systematic, strategic efforts were not made for library automation and networking. Law libraries have not adopted computerization in systematic and in uniform manner. Individual libraries of various High Courts and Supreme Court have made their own efforts to modernize their system. In 2004 an E-Committee was constituted in the Supreme Court of India by the Ministry of Law and Justice, Government of India with basic objectives to enhance transparency and accountability to provide speedy, qualitative and cost-effective justice to the people. E-committee, Supreme Court of India first time organised a training workshop on Library Automation Using Open Source Software KOHA for high court libraries and advised them to use KOHA Open source software for automation of High Court Libraries. The open source software concept has increased attention of the society in all walks of life; the technology can be used effectively for storage, retrieval and management of information services also. This paper has made an effort to examine the situation of High Court Libraries in terms of library automation and networking. The case study paper presents the current status and use of software by law libraries in India.

Purpose: Libraries of Indian judiciary are not covered under any consortium or agency like INFLIBNET, CSIRNET, INDEST, therefore collective, systematic, strategic efforts were not made for library automation and networking. Law libraries have not adopted computerization in systematic and in uniform manner. E-committee, Supreme Court of India first time organised a training workshop on Library Automation Using Open Source Software KOHA for high court libraries and advised them to use KOHA Open source software for automation of High Court Libraries. This paper has made an effort to examine the situation of High Court Libraries in terms of library automation and networking, presents

the current status and use of software by law libraries in India. Individual libraries of various High Courts and Supreme Court have made their own efforts to modernize their system. The purpose of present paper was limited to discuss issues in relation to migration of bibliographic data and possible methodology for migration of data from deferent formats to MARC-21 formats.

Design/methodology/approach:

The methods used are participant observation, interviews with the librarians, periodical and online articles were also used to gather information to support this study.

Findings - Findings discussed in this paper shows that many Libraries are using proprietary software at present but open source software use can help

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them to have common platform for exchange of data, resource sharing and information services. Use of open source will be beneficial for country like India in terms of cost saving also.

Originality/value - The paper provides unique knowledge about the existing situation of High Court Libraries in terms of Library automation and data migration. This study also identified ways using which the automation and computerization can be initiated.

Practical Implications: The paper provides useful information about data migration, planning automation and data migration issues in Indian law libraries.

0.1 Introduction:

In India, prior to year 1950 law was not even treated as an academic discipline, there was no law library development except libraries in the presidency high courts (Calcutta, Bombay, and Madras) (Agrawala, 1975). Immense proliferations of information resources, literature explosion and selective information requirement by courts and government departments have insisted them to establish law libraries for management of legal information resources. Indian High Courts and Lower Courts relied upon precedent, earlier decisions. Libraries are playing pivotal role by providing access to available resources and decisions (Mahr, 1990). Future legal development and people's attitude towards law, to a great extent, is depends upon the state of and scope for legal education (Agrawala, 1975). Libraries of courts are playing an important

role in creation, development, dissemination of related information resources and services to the judicial officers and judges (E-Committee, Supreme Court of India, New Delhi, 2005). High Courts at the state and union territory level, which together with the Supreme Court of India at the national level, comprises the country's judicial system ("Judiciary of India - Wikipedia, the free encyclopedia," n.d.). Each High Court, its bench and [Supreme Court of India](#) have established their Judges library for providing services to the judges and officers of the court. All these libraries are currently functioning independently with no interconnectivity, resource sharing, and expertise sharing among them. Law Libraries in India can be classified into three categories, one law libraries as a part of the academic institutions like a libraries of law college, law faculties, and law universities, second libraries are the libraries of Judiciary i.e. Libraries of Supreme Court, High Court and Bar Associations, third libraries of a legislative infrastructure i.e. libraries of parliament, legislative assemblies, central and state government law departments (Bhatt, 1995).

Law libraries in a country represent its legal potential (Agrawala, 1975). Indian Law Libraries are performing under pressure due to lack of man power, lack of ICT application and lack of resources sharing. Services of the Libraries can be improved if they can have some kind of mechanism for sharing of

resources and services. Advent of Information Communication Technology (ICT), network based information services influenced libraries to computerize their services in electronic form. ICT and automation facilitated libraries to provide speedy storage, dissemination, sharing of information resources and services. Based on observation,

0.2 Automation of High Court Libraries:

In India library automation began in the late 1970s in special libraries and later on it reached to most of the university, college, special libraries and in school libraries. For strengthening and modernization of the libraries, various initiatives were made by related organisations. CSIR (Council of Scientific and Industrial Research), ICMR (Indian Council of Medical Research), ICAR (Indian Council of Agriculture Research), and DRDO (Defence Research and Development Organisation) have taken lead for library automation and resource sharing for scientific and technical libraries working under their purview (Vyas, 1997). Information and Library Network (NLFLIBNET) Centre established by government of India for modernization of academic libraries, especially university libraries, provided financial assistance, technical support, training and developed library automation software (SOUL). INFLIBNET has also provided connectivity through nation-wide high-speed data network, developed related standards, creating union databases of serials,

interviewing and literature search it can be revealed that judiciary libraries are working in isolation, they do not have common platform to share their resources, services, and they all are not computerized using library management software. Law libraries do not have consortium and common information network for sharing their resources.

theses, books. Almost all academic libraries (university libraries including academic law libraries) are covered by INFLIBNET. Besides INFLIBNET, there are other national networks and consortium were also developed i.e. INDEST, UGC-INFONET and networks includes NICNET (National Informatics Centre's network), ERNET (Education and Research Network), CALIBNET (Calcutta Library Network), DELNET (Developing Library Network), etc. ADINET and MALIBNET. Law Commission of India, (1988) mentioned in its report that Computerisation of judiciary libraries is a high priority necessity. Chander (2003) mentioned that process of computerisation of case law started in early 1970's, but computerisation development in Indian law libraries started little slow. Computerisation in court and court libraries was initiated by Supreme Court of India through its various initiatives such as development of SUPLIS (Supreme Court Library Information System), database of Central and State Legislations, JUDIS (Judgment Information System) at Supreme Court. Judicial libraries in India could not made much

progress in automation and computerisation due to lack of efforts in form of formation of law library consortium for creation of common platform, lack of library standards, lack of expertise and resource sharing, library automation and modernization. The other reasons for the slow pace may be following (Vyas, 1999):

1. Indian Judicial libraries are working in relatively less autonomous environment.
2. The Judicial libraries are comparatively a smaller unit within a larger setup of Judicial system therefore they are in least priority category.
3. Libraries have to compete for scarce Indian and foreign resources related to law and allied areas.
4. Now many online databases and resources are available.
5. Indian judiciaries unfortunately are not covered by any agencies like INFLIBNET and CSIRNET or any other networks, therefore collective, systematic, strategic efforts could not initiated yet.

Due to above mentioned reasons libraries could not adopt computerization in uniform manner. Individual libraries of various High Courts and Supreme Court have made their own efforts to modernise their system. In 2004 an E-Committee was constituted in the Supreme Court of India by the Ministry of Law and Justice, Government of India with basic objectives to enhance transparency

and accountability in providing speedy, qualitative and cost-effective justice to the people. The e-committee has framed a National Policy & Action Plan for implementation of Information and Communication Technology in Indian Judiciary (Narayan, 2013). It was assessed, observed and stated by E-Committee that there is no centralized database of books/ periodicals maintained by judicial library system in India. Libraries of the judiciary are considered as an integral part of judicial system, provides sources of information and reference for many tasks and processes related to judicial functions. E-committee as a part of "National Policy & Action Plan for implementation of Information and Communication Technology in Indian Judiciary, p.26 (E-Committee, Supreme Court of India, New Delhi, 2005)" addressed the issues for optimal utilization of library resources in a more economic and scientific manner and proposed following:

1. Proposed that a digital library system will be maintained that will include important reference material/ books/ periodicals in digital format, which could be accessed through internet/ intranet by the judicial officers, judges, lawyers and public at large subject to assigned privileges and security measures.
2. In the proposed computerized library system, all the library resources would be connected through a network through standard Library systems like LIBSYS, SLIM, SOUL, or any other customized software

- application designed and developed.
3. The possible duplication will be avoided in purchase of library resources, available resources will be made available at anytime and anywhere to the authorized users of the library system.
 4. Also the required information can be accessed faster through computerized search tools/ keyword search, etc.
 5. The important documents/ reference material would be digitalized and this digitalized library system could be accessed online through the internet. This would also have link with the digital judicial archives. This can be accessed by the judges at from their work places.
 6. The infrastructure requirement for the digitalization of law literature would include scanners, computers, servers, digital storage devices, etc.
 7. The computerization of the library with proper indexing and search for specific topics/terms related to judiciary would be helpful in optimally utilizing this vast source of information. Modern library system will be in place with all the facilities by the end of this phase.
 8. Judicial process would have been automated and this process can be made available in the software library. Meta data, Scheme related legal process will be made available in a standardized form. Generic package can be made available which will be utilized for creation of new applications by the domain user itself. It is

expected that the judicial system will be completely ICT enabled during this phase.

As a part of E-committee activities, Supreme Court of India has organised a training Workshop on 'Library Automation Using Open Source Software KOHA'. E-Committee has given preference to adopt open source software KOHA for library automation; and advised libraries to migrate its existing data from commercial to open source software KOHA. The open source concept has increased attention of the society particularly in the field of librarianship. Libraries can realize many advantages by using open source software (Corrado, 2005). Kushwah, Gautam & Singh (2008) mentioned that the best reason for using open source is that library may have complete control over the system. Open source software is a software that includes source code, it is usually available at no charge, in addition to this the software must be free to redistribute; derivative works must be allowed; the license cannot discriminate against any persons; and the license cannot discriminate against any fields of endeavour (Corrado, 2005). Palmer and Choi (2014), Suthar (2014) described certain benefits to use Open Source Software for automation, such as reduced Software Cost; Ease of licensing restrictions; Quality Control; Localization; Ample support ;Quality software; Easy Evaluation; Platform Independent; Flexibility to choose support etc. E-committee of Supreme Court of India has made several other

efforts too for effective use of ICT in Indian legal system. A web portal <http://indianjudiciary.in> with the links to information relating to Supreme Court, State Judiciary, Legal Information, Judicial Academies, E-Committee and Data Centre has been created (Narayan, 2013).

0.3 Present Status of Automation and Database Creation at High Court Libraries

Supreme court is also insisting to use open source software due to its long list of benefits as discussed above, but adopting open source software, converting data from proprietary software to open source software is little complicated task specially for library professionals, unless until they have expertise related to ICT application and use. The work related to data migration needs expertise, interest, willingness, teamwork with proper co-ordination and planning. Training related to use of KOHA for library automation and management

provided direction to use open source software in law libraries. Based on discussion with participating libraries it was observed that the libraries are interested in migrating data from existing software (mentioned in Table-1) to open-source integrated library systems. The data collected from the participating libraries shows that some of the High Court Libraries are not using any software; some of them are using proprietary Library Management Software. A questionnaire was designed and distributed through e-mail, nearly 12 responses were received and remaining data was collected during discussion with the participants (from respective High Court Libraries) at National Judicial Academy, Bhopal during Library Management Programme on 22nd and 23rd November 2014. The received data analysed and interpreted with the application of percentage analysis.

Table 1: Status of Library Automation and Database Creation at High Court Libraries

S . N o	Court Name	Seat/ Benches	Data Number of Records Created using Existing Softwar e	Software Name	Supported Data output Format
1.	Allahabad High Court	Allahaba d	75000*	Libsys	Excel
2.	Allahabad High Court	Lucknow	50000*	Libsys	Excel*
3.	High Court of Judicature at Hyderabad	Hyderab ad	100000*	Troodon	CCF /ISO 2709 / MARC formats
4.	Bombay High Court	Mumbai	80000*	Local	?
5.	Bombay High Court	Auranga bad	45000*	Local	?
6.	Bombay High Court	Panaji	15000*	Local	?
7.	Bombay High Court	Nagpur	40000*	Local	?
8.	Calcutta High Court	Kolkata	86550*	Local	?
9.	Calcutta High Court	Port Blair	?	NU	

10	Chhattisgarh High Court	Bilaspur	?	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)
11	Delhi High Court	New Delhi	135860	Troodon	CCF /ISO 2709 / MARC formats
12	Gauhati High Court	Guwahati	?	NU	
13	Gauhati High Court	Aizwal	?	NU	
14	Gauhati High Court	Itanagar	8770	Troodon	CCF /ISO 2709 / MARC formats
15	Gauhati High Court	Kohima	8900	Troodon	CCF /ISO 2709 / MARC formats
16	Gujarat High Court	Ahmedabad	47000	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCELSHEET)
17	Himachal Pradesh High Court	Shimla	5109	E-Granthalaya	MARC21, MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)
18	Jammu and Kashmir High Court	Srinagar / Jammu	?	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SPR (Lost Data and hardware in Flood)
19	Jharkhand High Court	Ranchi	?	NU	
20	Karnataka High Court	Bengaluru	109476	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)
21	Karnataka High Court	Dharwad	40000*	E-Granthalaya	
22	Karnataka High Court	Gulbarga	40000*	E-Granthalaya	
23	Kerala High Court	Kochi	53789	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)
24	Madhya Pradesh High Court	Jabalpur	1,08,749	E-Granthalaya	MARC21, ISO2709
25	Madhya Pradesh High Court	Gwalior	51000	E-Granthalaya	MARC21, ISO2709
26	Madhya Pradesh High Court	Indore	44226	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)
27	Madras High Court	Chennai	8000	Excel	Excel
28	Madras High Court	Madurai	?	NU	
29	Manipur High Court	Imphal	?	NU	
30	Meghalaya High Court	Shillong	9300*	Troodon	CCF /ISO 2709 / MARC formats
31	Orissa High Court	Cuttack	40000*	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)
32	Patna High Court	Patna	?	NU	
33	Punjab and Haryana High Court	Chandigarh	135000	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)
34	Rajasthan High Court	Jodhpur	8000	NU	
35	Rajasthan High Court	Jaipur	64000*	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SPREADSHEET)
36	Sikkim High Court	Gangtok	15000*	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)
37	Tripura High Court	Agartala	1500*	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)
38	Uttarakhand High Court	Nainital	35000	E-Granthalaya	MARC21, ISO 2709, MARCXML, Dublin Core, Any others (EXCEL SHEET)

Note: * Status of record updated during Library Management Programme on 22nd and 23rd November 2014 at National Judicial Academy, Bhopal
 ? Not known

NU Not Using any Software

Present status of library automation in High Court Libraries represented in above Table 1, indicates that High Court Libraries are not using uniform standards and common software. The result shows that out of 38

libraries, 29 libraries are using library automation software, 08 libraries are not using any library automation software, and 01 library in this group is using Microsoft excels format for data entry (Figure 1).

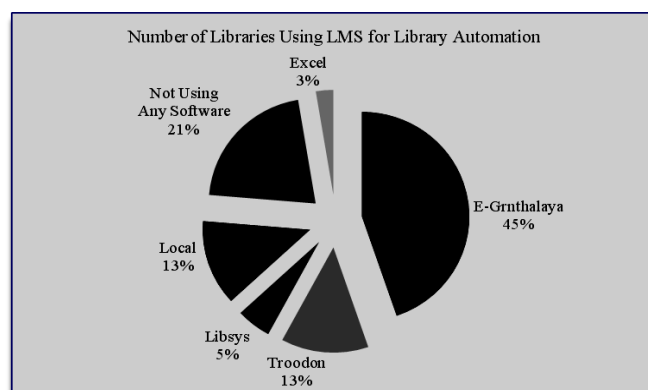


Figure-1 Number of Libraries Using LMS for Library Automation

It is first and foremost requirement to migrate existing data in a newly installed application software to use, to initiate migration process, it will be necessary to observe the present situation / status. The data represented in (Figure 1) shows that all the software mentioned above are not adhere to internationally known standards i.e. MARC 21, ISO 2709, AACR-IIR, Z39.50 etc, 17 (45%) libraries are using E-Granthalaya LMS, 08 (21%) libraries are not using any LMS for library automation, 05 (13%) libraries are using Troodon LMS, 05 (13%) libraries are using locally developed LMS, 02 (5%) libraries are using Libsys LMS and 01 (3%) library is using Microsoft Excel. This shows that all law

3.11 e-Granthalaya: Library Management Software designed and developed by the [National Informatics Centre, Ministry of Communications and Information](#)

libraries are not using uniform data output structure or software which can provide uniform structured data as an output i.e. MARC-21, UNIMARC, CCF. (Admin, 2013) No software has perfect mechanism or automated system to import data / metadata, if data is in Microsoft excel, the fields order, name of fields and data entered in the fields, subfields may have inconsistency i.e. two authors separated by comma (,) sometimes both authors in different columns. Little tips and tricks are needed to break the data according to new softwares' schema, mapping of data will be require during migration process. Based on software use libraries can be categorised as following.

[Technology](#), Government of India. The e-Granthalaya provided free of cost to the libraries for automation it supports below mentioned data output formats:-

1. CSV Files
2. MS Access File
4. MARC 21 Communication Format
5. MARC XML File
6. ISO: 2709 Format
7. Excel File

There are 17 High Court Libraries as mentioned below are using e-Granthalaya software.

1. Chhattisgarh High Court, Bilaspur
2. Gujarat High Court, Ahmedabad
3. Himachal Pradesh High Court, Shimla
4. Jammu and Kashmir High Court, Srinagar/Jammu
5. Karnataka High Court, Bengaluru
6. Karnataka High Court, Dharwad
7. Karnataka High Court, Gulbarga
8. Kerala High Court, Kochi
9. Madhya Pradesh High Court, Jabalpur
10. Madhya Pradesh High Court, Gwalior
11. Madhya Pradesh High Court, Indore
12. Orissa High Court, Cuttack

13. Punjab and Haryana High Court, Chandigarh
14. Rajasthan High Court, Jaipur
15. Sikkim High Court, Gangtok
16. Tripura High Court, Agartala
17. Uttarakhand High Court, Nainital

3.12 Data Conversion Methods

The e-Granthalaya supported formats (CSV file, MARC, Excel) can be converted easily using MARC edit software. [MarcEdit](#) is a free and open source programme, which can convert data from "delimited Text" using "Delimited Text Translator" sub fields (Local Fields 952). Detail of field 952 is mentioned in Table-2 for local information as used in KOHA, standard MARC21 tags for remaining bibliographic information need to be used. The MarcEdit software supports MARC format, regardless of flavour (eg. MARC21, UNIMARC, etc.).

Table -2 Important Local Fields and Subfields used in KOHA System.

Koha field	Tag	Subfield	Lib
item number	952	9	Koha item number (autogenerated)
biblio number			
biblio item number			
barcode	952	p	Barcode
date accessioned	952	d	Date acquired
book sellerid	952	e	Source of acquisition
homebranch	952	a	Permanent location
price	952	g	Cost, normal purchase price
replacementprice	952	v	Cost, replacement price
replacementpricedate	952	w	Price effective from
datelastborrowed	952	s	Date last borrowed
datelastseen	952	r	Date last seen
stack	952	j	Shelving control number
notforloan	952	7	Not for loan
damaged	952	4	Damaged status
itemlost	952	1	Lost status
wthdrawn	952	0	Withdrawn status
itemcallnumber	952	o	Full call number
coded_location_qualifier	952	f	Coded location qualifier

issues	952	l	Total Checkouts
renewals	952	m	Total Renewals
reserves	952	n	Total Holds
restricted	952	5	Use restrictions
itemnotes	952	z	Public note
holdingbranch	952	b	Current location
paidfor			
timestamp			
location	952	c	Shelving location
permanent_location			
onloan	952	q	Checked out
cn_source	952	2	Source of classification or shelving scheme
cn_sort	952	6	Koha normalized classification for sorting
ccode	952	8	Collection code
materials	952	3	Materials specified (bound volume or other part)
uri	952	u	Uniform Resource Identifier
itype	952	y	Koha item type
more_subfields_xml			
enumchron	952	h	Serial Enumeration / chronology
copynumber	952	t	Copy number
stocknumber			

3.21 LIBSYS: This software is developed by Libsys Corporations, New Delhi; it is a fully integrated multi-user system. The software supports international standards such as CCF, MARC, and Z39.50 etc. It has modules related to acquisitions, cataloguing, online public access catalogue (OPAC), circulation control and serials control modules. There are 02 (two) High Court Libraries mentioned below are using Libsys software.

As per information detail provided by Libsys documentation and manual the software supports CCF, MARC format, but practically data extraction in MARC21 format is not possible, vendor has locked Export/Import features in several installations. Due to this libraries are facing difficulties in data migration, some of the libraries

shared their experience (Admin, 2013) that Libsys software does not support exporting data into other format such as CCF, Oracle or MySQL, etc. the export facility available in the Cataloguing module for export data in CCF, EXCEL, MARC, Text, does not work.

3.22 Data Conversion Methods

The High Court Libraries mentioned below, have converted their data using Libsys comma delimited reports. This delimited file converted using delimited text to Microsoft Excel option available in Microsoft Excel. The excel file using "MARC edit" can be converted in MARC file format, therefore libraries were advised to migrate their data using comma delimited reports, the bibliographic data as per MARC21 format and local data 952 tag may be mapped as per Table-2 detail.

High Court Libraries Using Libsys

1. Allahabad High Court, Allahabad
2. Allahabad High Court, Lucknow

3.31 TROODON: Troodon is an integrated package linking all the relevant functions in the library, five integrated modules i.e. Retro conversion and Database Maintenance, Acquisition, Circulation, Online public access catalogue for internet / intranet, Serials Control along with Administrative module for configuration and initial setup of the software are available (Comtek Services Pvt Ltd, n.d.). The Troodon software supports Multi-user, Multi-lingual package; Web enabled to work perfectly on intranet/internet; GUI Based (Graphical User Interface) and also compatible with barcode and Multimedia.

3.32 Data Conversion Methods

The software supports CCF / ISO 2709 / MARC formats, to convert data from Troodon to KOHA the MARCedit software can be used. CCF and ISO 2709 data

can be migrated using CDS-ISIS.iso => MARC Translation option of MARC edit software or MARC record can be exported directly from Troodon and local 952 tags may be mapped as per Table 2. Mapping of the fields need to be based on MARC21 and Local 952 tags as mentioned in Table 2. Following High Court Libraries are using Troodon Software.

1. High Court of Judicature at Hyderabad, Hyderabad
2. Delhi High Court, New Delhi
3. Gauhati High Court, Itanagar
4. Gauhati High Court, Kohima
5. Meghalaya High Court, Shillong

3.41 Court Library Management Software (CLMS): The Bombay High Court Judges' Library has developed library automation software with the help of NIC technical team.

3.42 Data Conversion Methods

The software doesn't supports standard output format of data conversion, therefore libraries were advised during the training programme that, try to extract data with the help of developer in structured comma delimited bibliographic records or in excel format and then use MARC edit to convert your data in MARC 21 format along with local 952 tag as per Table 2 detail.

1. Bombay High Court, Mumbai
2. Bombay High Court, Aurangabad
3. Bombay High Court, Panaji
4. Bombay High Court, Nagpur
5. Calcutta High Court, Kolkata

3.5 Microsoft Excel: The Madras High Court has entered its data in Microsoft excel, the excel

file need to be converted into MARC21 file using MARC edit software “Delimited text Translator” option and then it can be imported it into KOHA.

1. Madras High Court, Chennai

3.6 Not Using Any Software:

The high court libraries mentioned below have not started library automation using any software, It was advised them to start automation with using KOHA. Data conversion process will not be applicable for them.

1. Calcutta High Court, Port Blair
2. Gauhati High Court, Guwahati
3. Gauhati High Court, Aizwal
4. Jharkhand High Court, Ranchi
5. Madras High Court, Madurai
6. Manipur High Court, Imphal
7. Patna High Court, Patna
8. Rajasthan High Court, Jodhpur

4.0 Data Migration Issues:

Every library and bibliographic data created by them is unique/different in nature of collection, resources and services; and every software developed for library management is also deferent therefore data migration steps/process will vary. The issues related to the data migration may be summarised as per following points.

1. All High Court Libraries are not using worldwide accepted uniform standards for data exchange, bibliographic record creation and copy cataloguing, therefore their existing data is not in a standard format. Data cleanup and editing needed for quality.
2. Existing software which supports data output in MARC21format, still

952 tag for local information needs mapping and migration.

3. Data conversion from Microsoft Excel/MARC21, Comma Delimited format to MARC 21, KOHA acceptable format needs tips and tricks to avoid data loss during migration. Expertise and skills among the professionals related to bulk data editing, migration, cleanup needed.

4. Existing bibliographic records created by High Court Libraries are not adhere to the library standards such as AACR2R, LCSH consistency and uniformity related to rendering needed.

5.0 Suggested Data Migration Strategy:

There are several issues need to be considered while thinking for data migration with internal or external expertise (Singh, 2013). Starting this process libraries need to assess themselves with SWOT strength weaknesses and threat analysis. The important areas such as internal staff expertise, system feasibilities, vendor support, testing and implementation and migration issues, cost factors and strategies need to be considered.

1. Libraries need to assess, evaluate existing system; pre-migration, that will help them to identify their strength and weakness related to migration/automation.
2. Libraries need to assess related expertise of available among the existing staff, if possible necessary training need to be provided prior to start data migration, editing and data processing.
3. If libraries working with a vendor or with external support, a

designated liaison (staff) with the vendor/external support needs to be authorised, so that all questions/queries go through one person. The liaison will have to be someone who understands or can learn enough about the process and procedure related to the migration and automation.

4. Libraries need to spent time for testing of data and system, explicit timeline and procedure need to be followed.

6.0 Conclusion

Among the all High Court Libraries 79 per cent of the libraries are using library automation software for their library operation and services. The majority of libraries are using e-Granthalaya, the data migration from most of the MARC and Tab delimited formats is possible. Most of the places library staff with the help of NIC staff is doing data migration, once this process is over, all the high courts will have common platform for Library automation. Data exchange from one library to another will be possible. Existing high courts will be in position to have Inter Library Loan facility also.

Automation is an initial step in process of modernisation of library services for effective utilisation of resources. Many more related benefits can be availed by High Court Libraries by sharing their resources and services in ICT environment. It is advisable that High Court Libraries need to have their consortium to coordinate and share their resources effectively with each other like INFLIBNET, INDEST. This kind of mechanism

will help them to maintain consistency in use of ICT and related standards. Regular activities related to the training, staff capacity building can be initiated under umbrella of consortium.

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Superannuation of Dr. Arjun Singh **Indian Inst. Of Forest Management, (IIFM), Bhopal**

Dr. ARJUN SINGH born 1st July 1955 in the Village Jamadara, Dist. Ballia, U.P. He has completed his High School in 1969 from National Inter College, Adri, Indara, District Azamgarh, and Intermediate in 1971 from Kunwar Singh Inter College, Ballia, U.P. He did Master of Science (Zoology) in 1975 from K. N. Govt. Post Graduate College, Gyanpur, Varanasi, B. Lib. Sc. (1977), B.H.U., Varanasi, U.P. After completing his Blis he joins the LBS National Academy of Administration, Mussoorie as Assistant Librarian till June 1979 then he selected as a Librarian in North-Eastern Council, Shilong and work here for 4 year. He established and systematic organization of the Regional Library and Documentation Centre for North East in North Eastern Council, Shillong during the year 1979 to 1983. In December 1983 he joins TELCO, Jamshedpur as Sr. Librarian and work till March 1986.

Then he moves to the City of Lakes for his entire service in the Indian Institute of Forest Management, Bhopal (from March 1986 to 31 June 2015). During this period he has done his M. Lib. Sc. (1992) Mumbai University, Mumbai and Doctorate Ph.D. in 2002 from University of Rajasthan, Jaipur.

Dr. Arjun Singh associated with many Library Associations i.e. Life member of IASLIC, Kolkata, Life member of ILA, New Delhi, Life member of MPLA, Bhopal. He held Treasurer of MPLA for 05 years and Council Member of IASLIC for two terms. He attended more than 20 National and regional Conferences/ Seminars. More than 10 Articles and Books published by him in various National and International journals. He Received 1st IASLIC Ranganathan Medal for Best Articles at Lucknow, Uttar Pradesh in the year 1993.

**Tour Report
&
SLA Asian Librarian Award 2015
Dr. Sandeep Kumar Pathak, Bhopal**



Dr. Sandeep Kumar Pathak, Deputy Librarian & I/c Central Library, IISER Bhopal has recently visited Boston, USA to attend SLA Annual Conference 2015 during June 14-16, 2015.

During the conference, on June 14, 2015, Dr. Pathak was awarded the the prestigious SLA Asian Librarian Award 2015.

He also made a poster presentation in the conference **on "A Scientometric study of Research papers of IISER Bhopal (India) during 2009-2014.**

During the USA visit (June 12-21, 2015) Dr Pathak has visited many Institution and Universities of USA, such as Harvard University, MIT University, Boston University, Boston Public Library, Newyork Public Library and Newyork State University. More then 5000 delegates have attended this conference.

Instructions to contributors/Authors

General guidelines:

Manuscripts submitted must be in English or Hindi. The quality of the language must meet the standards of the international community. The paper should not exceed 15 typewritten pages (A4) double-spaced with wide margins. Also provide the text in electronic form using any exchange standard like RTF or HTML in double spacing; the program will then convert the file. Papers should not have been published before nor be

currently under consideration by other journals. Author must submit a duly signed declaration, and to confirm that their article is original, accurate and does not include any libelous statements. The editorial board will not be held responsible for the opinions expressed by the author(s). For faster production, an author may send the paper in a CD and or as an attachment of email, in addition to hardcopy.

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